BRAYTSEV, V.R., professor (Moskva, Novoslobodskaya ul., 57/65, kv. 58)

Cysts, and fibrous and giant-cell growths on bones, their pathogenesis and nature. Vest.khir. 83 no.11:18-27 N '59. (MIRA 13:4)
(BONE AND BONES neoplasms)

BRAYTSEV, V.R., prof. (Moskva, ul. Novoslobodskaya, d.57/65, kv.58)

Hyperparathyroidism and Recklinghausen's disease. Vest.khir. 83 no.12:15-24 D '59. (MIRA 13:5)

(OSTEITIS FIBROSA etiology)
(PARATHYROID GLANDS diseases)

BRAYTSEV, V. R., (Prof.) -- Moscow

"Cysts, Fibrous and Giant Cell Formations in Bones, Their Pathogenesis and Treatment."

Report submitted to the 27th Congress, of Surgeons of the USSR, Moscow, 23-28 May 1960.

PA 65/49T89

BRAYTSEV, V. V.

USSR/Medicine - Literature
Smallpox

Apr 49

"New Books Published by Medgiz" 1 p

"Sov Med" No 4

Lists five new books: V. V. Braytsev's "Osteodystrophia Fibrosa," L. A. Zalkind's "Healthy Marriage and the Healthy Family," S. M. Leytes' "Adiposity (General Pathology)," M. A. Morozov and V. S. Solov'yev's "Smallpox," and L. Ya. Skorokhodov's "Historical Data on Medical Microbiology in Prerevolutionary Russia."

65/49T89

BRAYTSEV, V.Ya., professor (Moskva)

Anaerobic osteomyelitis. Khirurgiia no.11:6-11 N '54. (MIRA 8:3)
(OSTEOMYELITIS, bacteriology,
anaerobic)

BRAYTSEV, V.Ya., professor.

Present-day status of the problem of treating osteomyelitis.
Khirurgiia no.6:6-14 Je '55. (MLRA 8:10)

1. Iz kliniki obshchey khirurgii (dir.-prof. G.P.Zaytsev)
pediatricheskogo fakul'teta II Moskovskogo meditsinskogo
instituta imeni I.V.Stalina.
(OSTEOMYELITIS, ther.
antibiotics)
(ANTIBIOTICS, ther. use
osteomyelitis)

BRAYTSEV, V.Ya., professor (Moskva)
[redacted]

"Surgery" A.N. Velikoretskii. Reviewed by V.Ya. Braitsev. Med. sestra no.12:27-28 D '55. (MLRA 9:3)

(SURGERY) (VELIKORETSKII, A.N.)

BRAYTSEV, V.Ya., professor (Moskva)

Soviet surgery in its present stage. Med.sestra 15 no.12:3-7 D '56.
(SURGERY) (MLRA 10:1)

Country : USSR
Category= : Human and Animal Physiology. Digestion. The Stomach. T
Abs. Jour. : Ref Zhur-Biol., No 23, 1958, 106546

Author : Braytsev, V. Ya.
Institut. : Moscow Second Medical Institute.
Title : The Diseased Stomach's Protein Secretion.

Orig. Pub. : Uch. zap. 2-y Mosk. med. in-t, 1957, 10, 127-132

Abstract : No abstract.

Card: 1/1

[illegible]

BRAYTSEV, V.Ya. (Moskva)

"Surgery" by A.N.Velikoretskii, V.A.Kruzhkova. Reviewed by V.IA. Braitsev. Med.sestra 17 no.1:43-44 Ja '58. (MIRA 11:2)
(SURGERY)
(VELIKORETSKII, A.N.) (KRUZHKOVA, V.A.)

BRAYTSEV, V.Ya., prof. (Moskva)

Fundamentals of anesthesiology. Med.sestra 18 no.12:3-6 '59.
(MIRA 13:3)
(ANESTHESIOLOGY)

BRAYTSEV, V.Ya., prof. (Moskva, A-55, Novoslobodskaya ul., d.57/65, 5-y
pod'yezd, kv.52)

Surgical treatment of portal hypertension. Vest.khir. 83 no.10:
40-43 O '59. (MIRA 13:2)
(HYPERTENSION PORTAL surgery)
(SPLENIC ARTERY surgery)

BRAYTSEV, V.Ya., prof. (Moskva)

Surgical treatment of hemolytic anemias. Probl.gemat.i perel. krovi 5 no.1:38-40 Ja '60. (MIRA 14:6)

(ANEMIA) (SPLEEN—SURGERY)

BRAYTSEV, V.YA.

Sequelae of ligation of the splenic artery under experimental conditions. Eksper. khir. 5 no. 5:29-36 '60. (MIRA 14:1)
(SPLENIC ARTERY—LIGATURE)

BRAYTSEV, V.Ya., prof. (Moskva)

Problem in surgical prophylaxis. Khirurgiia 36 no.11:70-75
N '60. (MIRA 13:12)

(SURGERY, OPERATIVE) (AIR—BACTERIOLOGY)

BRAYTSEV, V.Ya., prof. (Moskva)

Obliterating diseases of the arteries of the extremities (diagnosis, prevention, treatment). Med. sestra 20 no.1:7-11 Ja '61. (MIRA 14:3)

(ARTERIES—DISEASES) (EXTREMITIES, LOWER)

BRAYTSEV, V. Ya., prof. (Moskva)

Prospects for cortisone therapy in surgery. Khirurgiia no.2:
66-70 '62. (MIRA 15:2)

(CORTISONE)

BRAYTSEV, V.Ya., prof. (Moskva)

Present-day medicine in the control of malignant tumors. Med. sestra 21 no.7:16-18 Jl '62. (MIRA 15:8)
(CANCER)

BRAYTSEV, V.Ya., prof. (Moskva)

Role of a vagosympathetic block in pancreatitis. Sov. med. 25 no.2:57-60 F '62. (MIRA 15:3)

(PANCREAS--DISEASES)
(LOCAL ANESTHESIA)

BRAYTSEV, V.Ya., prof. (Moskva)

"Work of a nurse in the surgical department" by D.L. Parmenenkov. Reviewed by V.IA. Braitsev. Med.sestra 20 no.12:53-55 D '61. (MIRA 15:3)

(SURGICAL NURSING)
(PARMENENKOV, D.L.)

BR[illegible]V, V.[illegible], prof. (Moskva, [illegible])

Functional method of surgical treatment of splenomegaly and portal hypertension. Vest. khir. 91 no.[illegible] '63. (MIRA 17:4)

BRAYTSEV, V.Ya., prof.; VLASOVA, Ye.F., dr. med. nauk;
CHERVYAKOVA, S.A. (Moskva)

Role of corticosteroid hormones in the pathogenesis and treatment of hematogenous osteomyelitis. Khirurgiia 40 no.2:51-56 F '64.
(MIRA 17:7)

BRAYTSEV, V.Ya., prof. (Moskva)

Porphyria. Khirurgiia 40 no.7:125-126 Jl '64. (MIRA 18:2)

BRAYTSEVA, M. D.

USSR/Medicine - Antibiotics Jan 51

"Application of Penicillin Together With Ekmolin and Novocain in Clinical Practice," Prof Z. V. Ermol'yeva, Corr Mem, Acad Med Sci USSR, G. Ye. Vaisberg, M. D. Braytseva, R. I. Agranovich, Moscow, Therapeutic Clinic and Surg Clinic, Cen Clinical Hosp imeni N. A. Semashko, Min of Transp

"Klin Med" Vol XXIX, No.1, pp 43-48

Antibiotic ekmolin, isolated b y Prof Z. V. Ermol'yeva and L. K. Valedinskaya, enhances antibacterial effect of penicillin or streptomycin and suppresses development of resistant forms of bacteria. Cites detailed clinical data which show this and demonstrate that higher concn of penicillin or streptomycin is retained in the blood when the antibiotic is administered in combination with ekmolin and novocain. Carried out intramuscular injections of 100,000 units of penicillin, 1 ml of 0.5% ekmolin, and 1 ml of 1% novocain.

186T72

BRAYTSEVA, M. D.

USSR/Medicine - Antibiotics May 51

"Inhalation of Penicillin in Therapeutic and Surgical Practice,"
G. Ye. Vaysberg, R. I. Agranovich, M. D. Braytseva, Cen Clinical Hosp imeni Semashko, Min Transp

"Klin Med" Vol XXIX, No 5, pp 76-79

Inhalation of penicillin aerosol has good effects in treatment of suppurative processes of lungs (particularly acute conditions), of acute bronchitis, of early stages of bronchiectasis, and in expediting healing in cases of pneumonia. Inhalation results in high concn of penicillin in the blood for 8-12 hr.

183T66

BRAYTSEVA, M.D.

Penicillin inhalation in surgical practice. Trudy AMN SSSR 22:137-142 '52.
(MLRA 6:6)
(Penicillin)

BRAYTSEVA, M.D.

MD

Use of penicillin in combination with ecmolin in clinical practice. Z. V. Ermol'eva, M. D. Braitseva, G. R. Vaisberg, T. I. Balezina, and A. I. Agranovich. *Trudy Akad. Med. Nauk S.S.S.R., Antibiotiki i ikh Primenenie* 22, No. 1, 143-57(1952).—In combination with ecmolin and procaine, penicillin (I) remains in the blood at therapeutic level for 12 hrs. Ecmolin with I maintains a therapeutic I level in the blood for 6 hrs. A. S. Mirkin

④

BRAYTSEVA, M.D., kandidat meditsinskikh nauk

Therapy of acute cholecystitis. Vest.khir. 75 no.4:50-56 My '55.
(MIRA 8:8)

1. Iz khirurgicheskoy kliniki (zav.-prof. V.R.Braytsev) TsIU na baze bol'nitsy im. Semashko MPS. Moskva, Novoslobodskaya UL., d. 57/65, kv. 58.

(CHOLECYSTITIS, surgery,
time element)

BRAYTSEVA, M. D.

"Transplantation of Skin by Split-Skin Graft Method," by M. D. Braytseva, Candidate of Medical Sciences, Surgical Clinic (head, Prof V. R. Braytsev) of the Central Institute for the Advanced Training of Physicians on the Base of Central Hospital imeni Semashko, Ministry of Transportation, Vestnik Khirurgii imeni Grekova, Vol 77, No 11, Nov 56, pp 129-134

Results of split-skin grafts transplanted onto 52 patients are discussed, and indicate that split-skin grafts cut out by dermatome give favorable results in the treatment of skin burns and defects resulting from traumatic injuries.

In cases of burns, split-skin grafts have to be transplanted as soon as possible. Conditions are most favorable for transplantation 3-4 weeks after receiving the burns, despite contamination of the wound by microorganisms and the serious condition of the patient.

Skin grafts transplanted during very early periods after burns may be 0.4-0.5 mm thick; later on they may be thicker, i.e., 0.7-0.8 mm. Skin grafts after traumatic or postoperative injuries may be 0.6-0.8 mm thick. (U)

SUM.1374

BRAYTSEVA M.D

BRAYTSEVA, M.D., kand.tekhn.nauk

Surgical treatment of the esophagus [with summary in English]
Khirurgiia 33 no.7:13-19 Jl '57. (MIRA 10:11)

1. Iz 1-y khirurgicheskoy kafedry (zav. kafedroy - deystvitel'nyy chlen AMN SSSR, zasluzhennyy deyatel' nauki prof. V.R.Braytsev) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. V.P. Lebedeva) na baze TSentral'noy klinicheskoy bol'nitsy Ministerstva putey soobshcheniya imeni N.A.Semashko (nach. V.P.Akopov)
(ESOPHAGUS, dis.
dilat., surg.)

BRAYTSEVA, N.N. (Moskva)

Separation of a large benign esophageal tumor. Klin.med. 35 no.4: 54-56 Ap '57. (MLRA 10:7)

1. Iz rentgenologicheskogo otdeleniya (zav. - N.N.Braytseva, glavnyy rentgenolog - zasluzhennyy deyatel' nauki prof. S.A.Reynberg) Moskovskoy gorodskoy ordena Lenina klinicheskoy bol'nitsy imeni S.P.Botkina (glavnyy vrach - prof. A.N.Shabanov)

(ESOPHAGUS, neoplasms
benign tumor, spontaneous separation)

BRAYTSEVA, N.N., GINZBURG, E.M.

Malignant pancreatic cysts and x-ray diagnosis. Klin.med. 36
no.4:81-85 Ap'58 (MIRA 11:5)

1. Iz rentgenologicheskogo otdeleniya (nauchnyy rukovotitel' - zasluzhennyy deyatel'nauki prof. S.A. Reynberg) Moskovskoy klinicheskoy ordena Lenina bol'nitsy imeni S.P. Botkina (glavnyy vrach - prof. A.N. Shabanov)
(PANCREAS, neoplasms
x-ray diag. (Rus))

BRAYTSEVA, N.N.

Analysis of causes of mistakes in the X-ray diagnosis of gastric cancer and ulcer. Sov. med. 25 no.9:28-33 S '61. (MIRA 15:1)

1. Iz 1-y kafedry rentgenologii i radiologii TSentral'nogo instituta usovershenstvovaniya vrachey (zav. - zasluzhennyy deyatel' nauki prof. S.A.Reynberg) na baze klinicheskoy ordena Lenina bol'nitsy imeni S.P.Botkina (glavnyy vrach - prof. A.N.Shabanov).
(STOMACH--CANCER) (PEPTIC ULCER) (STOMACH--RADIOGRAPHY)

BRAYTSEVA, N.N.; PRAGER, R.L. (Moskva)

Gastric sarcoma. Klin.med. 40 no.6:51-58 Je '62.

(MIRA 15:9)

1. Iz pervoy kafedry rentgenologii i radiologii (zav. - zaslyzhennyy deyatel' nauki prof. S.A. Reynberg) TSentral'nogo instituta usovershenstvovaniya vrachey (dir. M.D. Kovrigina) na baze rentgenologicheskogo otdeleniya (zav. A.V. **Kutsidi**) Klinicheskoy bol'nitsy imeni S.P. Botkina (glavnyy vrach - dotsent Yu.G. Antonov).

(STOMACH--CANCER)

ACCESSION NR: AP4041351 S/0248/64/000/006/0075/0081

AUTHOR: Votchal, B. Ye.; Belousov, A. S.; Zvyagina, L. N.; Braytseva, N. N.

TITLE: Radiotelemetric study of temperatures in the human stomach and intestine in normal and pathological conditions

SOURCE: AMN SSSR. Vestnik, 19 no. 6, 1964, 75-81

TOPIC TAGS: radiotelemetry, temperature radiotelemetry, stomach, radiocapsule, gastrointestinal tract

ABSTRACT: Data derived from investigations of the human digestive tract with the aid of a temperature-measuring radiocapsule are presented. Temperature readings were obtained in 30 healthy persons and 57 patients suffering from various disorders of the digestive tract, including inflammatory and noninflammatory conditions. The radiocapsule method permitted the authors to detect two types of digestive tract temperature curves in healthy subjects — one relatively high, on the order of 36.8 to 38.6C and the other relatively low, on the order of 36.8 to 37.8C; that is, hyperthermal and hypothermal cases.

Card 1/3

ACCESSION NR: AP4041351

Repeated attempts to associate changes in temperature in the digestive tract with the presence of acute cholecystitis or cancerous ulcers were unsuccessful. Since the temperature in different parts of the digestive tracts of healthy persons varied as much as 1.5C, the presence of acute or chronic inflammation processes was indicated by the shape of the curve rather than by absolute temperature values. The circulation of the blood in the stomachs of healthy and sick people was studied by having the subjects drink hot or cold water, then noting the change in internal temperature and its restoration to previous levels. In addition, hot or cold water was injected directly into the stomach in order to determine circulation in the stomach wall. The role of the temperature factor in the evacuant function of the stomachs of healthy and diseased subjects was found to be very important, along with the pH value of the contents of the stomach. Thus, the use of radiocapsules is a promising method for investigating the function of the digestive tract. Orig. art. has: 5 figures.

ASSOCIATION: Tsentral'ny*y institut usovershenstvovaniya vrachey, Moscow (Central Institute for Upgrading Physicians)

Card 2/3

ACCESSION NR: AP4041351

SUBMITTED: 30Mar64 ENCL: 00

SUB CODE: LS, EC NO REF SOV: 001 OTHER: 000

Card 3/3

BRAYUKHANOV, A. N., et al

Technology of Metals. 1954. (Tekhnologiya metallov.)

ABEL', Faina Khaimovna; BRAYTSEVA, Tat'yana L'vovna; POTOLOKOV,S.I., spetsred.; ITSKOVICH,V.A., red.; FORMALINA,YeA., tekhn.red.

[Use of polymeric materials in the packing of fishery products]
Primenenie polimernykh materialov dlia upakovki rybnoi produktsii.
Moskva, TSentr. nauchno-issl. laboratoriia tary, 1960. 42 p.
(MIRA 14:5)

(Fishery products--Packaging) (Plastics)

BRAYVO, K. (Riga)

Not even three days passed. Voen. znan. 41 no.6:24 Je '65. (MIRA 18:5)

BRAYYER, ERNEST [Brajer, Ernest]

Content of nonesterified fatty acids in the blood of neonates depending on the time of the first nursing by the mother. Biul.eksp.biol. i med. 55 no.1:56-60 Ja'63. (MIRA 16:7)

1. Iz laboratorii vozrastnoy fiziologii i patologii (zav. prof. I.A. Arshavskiy) Instituta normal'noy i patologicheskoy fiziologii (dir. - deystvitel'nyy chlen AMN SSSR V.V. Parin) AMN SSSR, Moskva i iz 2-y pediatricheskoy kliniki meditsinskogo fakul'teta Universiteta imeni N.I.Komenskogo, Bratislava, Chekhoslovatskaya Sotsialisticheskaya Respublika. Predstavlena deystvitel'nym chlenom AMN SSSR V.V.Parinym.
(ACIDS, FATTY) (BREAST FEEDING)
(BLOOD--ANALYSIS AND CHEMISTRY)

BRAYYER, L.; PETROVSKIY, P.V.; FEDIN, E.I.

Dimensionality units in high-resolution spin-Hamiltonian nuclear magnetic resonance. Zhur. struk. khim. 6 no.3:456-457 My-Je '65.

Determination of the transfer number in high-resolution nuclear magnetic resonance spectra. Ibid.:454-456

(MIRA 18:8)

1. Institut elementoorganicheskikh soyedineniy AN SSSR.

SHMYREV, I.K.; DONKER, A.D.; BARSKAYA, A.B.; KIM[illegible]NA, L.M.; BRAYYER, L.;
PETROVSKIY, P.V.; FEDIN, E.I.

Program of computing nuclear magnetic resonance spectra of high resolution in the case of strong spin-spin interaction. Zhur. strukt. khim. 6 no. 4:625-[illegible] Jl-Ag '65 (MIRA 19:1)

1. Nauchno-issledovatel'skiy institut rezinovoy promyshlennosti i Institut elementoorganicheskikh soyedineniy AN SSSR. Submitted April 14, 19[illegible]

ATOYAN, K.M., kand.tekhn.nauk; GENBOM, B.B., kand.tekhn.nauk; DROBOT, Yu.I., kand.tekhn.nauk; BRAZ, A.S.; NAGORNYAK, G.A.

Design and efficiency of the engine brake of the LAZ motorbuses with carburetor V-engines. Avt.prom. 31 no.4:8-11 Ap '65. (MIRA 18:5)

1. L'vovskiy politekhnicheskiy institut i L'vovskiy avtobusnyy zavod.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

3RD AND 4TH ORDERS

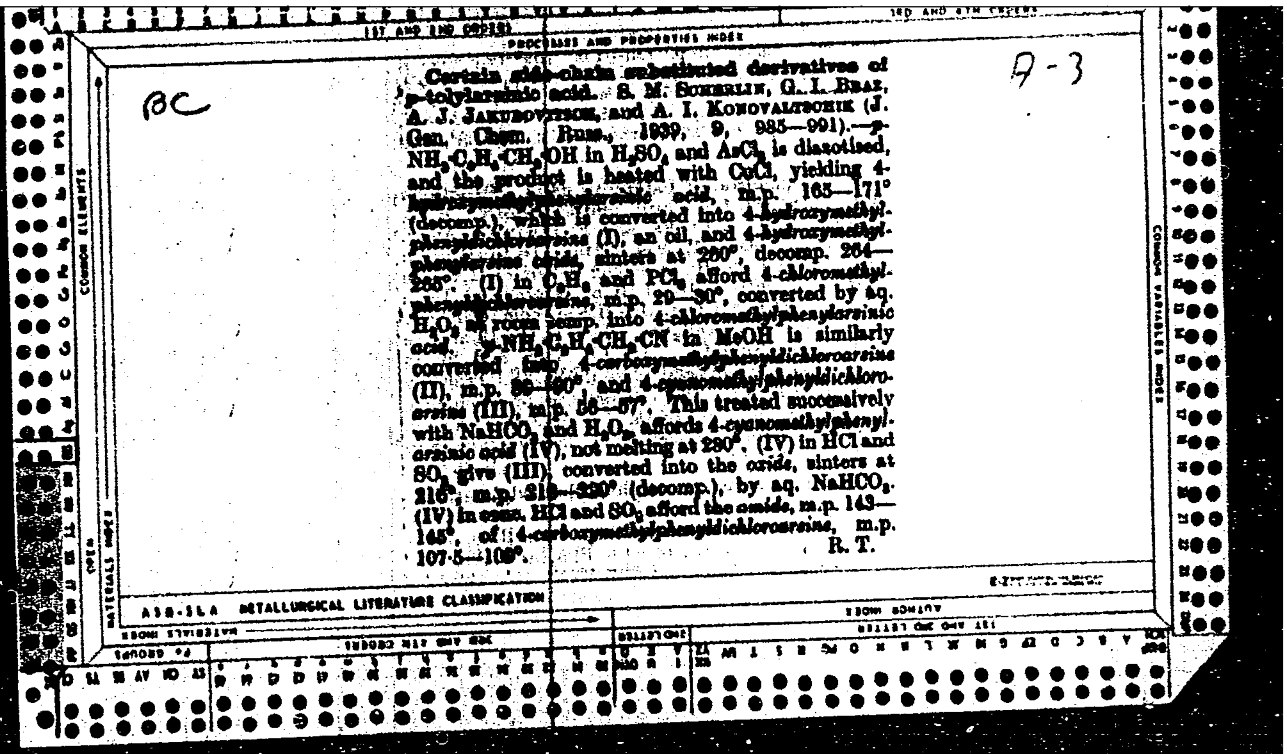
CN

10

Hydroxy- and methoxyacridines. S. M. Sherlin, G. I. Braz, A. Ya. Yakubovich, E. I. Vorob'eva and F. B. Rabinovich. *J. Gen. Chem.* (U. S. S. R.) **8**, 884-97 (in English 898) (1938).—The prepn. and chem. properties of 1-, 2- (I), 3- and 4-methoxy- (II), 1,4- and 4,5-dimethoxy- (III) and 2- and 4-hydroxyacridine were studied in connection with the systematic investigation of the effect of various substituents and their position in the acridine mol. on its *pharmacol. action*. I and II were prepd. by modified methods. The synthesis was effected by the Ullmann method of condensation of corresponding anisidine isomers with o-$ClC_6H_4CO_2H$ ($Cl(MeO)C_6H_3CO_2H$ in the case of III) and ring closure of the resulting methoxydiphenylamine-o-carboxylic acids to corresponding acridones. The latter were reduced in AmOH with Na-Hg to 9,10-dihydroacridines by the method of Clemo, Perkins and Robinson (*C. A.* 19, 2001). The dihydroacridines were then oxidized to acridines with $K_2Cr_2O_7$, $NaNO_2$ or $FeCl_3$, depending on the nature of the compd. I, m. 201-2°, resulted in 93% yield from 10 g. of 4-methoxydiphenylamine-2′-carboxylic acid, 11.5 g. PCl_5 and 150 ml. C_6H_6 at 50–60° on treating the reaction mixt. with 17 g. $AlCl_3$ at room temp. for 12 hrs. At higher temps. considerable 2-hydroxyacridone is formed. The 2-methoxyacridone is then converted into I as usual. In the modification of the method of Jensen and Friedrich (*C. A.* 21, 1815) for the prepn. of II, the required 2-methoxydiphenylamine-2′-carboxylic acid was prepd. from o-anisidine and o-$ClC_6H_4CO_2H$ instead of the little available o-$H_2NC_6H_4CHO$ and BrC_6H_4OMe. The reduction of 4-methoxyacridone with Na in AmOH resulted in considerable sapon. to 4-hydroxy-9,10-dihydroacridine and accordingly poor II yield. Better results were obtained in EtOH. In the ring closure of 2,5-dimethoxydiphenylamine-2′-carboxylic acid with PCl_5 to 1,4-dimethoxyacridone a part of the acid is chlorinated, giving 1,4-dimethoxy-?-chloroacridone (cf. Borsche, Runge and Trutner, *C. A.* 27, 5744). The cyclization with PCl_5 proceeds without side reactions. The investigation is being continued. Twenty-four references.

Chas. Blanc

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION


1ST AND 2ND ORDERS
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ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

BC

A-3

Certain side-chain substituted derivatives of p-tolylarsinic acid. S. M. Scherlin, G. I. Braz, A. J. Jakubovitsch, and A. I. Konovaltschik (J. Gen. Chem. Russ., 1939, 9, 985—991).—p-$NH_2\cdot C_6H_4\cdot CH_2\cdot OH$ in H_2SO_4 and $AsCl_3$ is diazotised, and the product is heated with CuCl, yielding 4-*hydroxymethylphenylarsinic* acid, m.p. 165—171° (decomp.), which is converted into 4-*hydroxymethylphenyldichloroarsine* (I), an oil, and 4-*hydroxymethylphenylarsine oxide*, sinters at 260°, decomp. 264—265°. (I) in C_6H_6 and PCl_5 afford 4-*chloromethylphenyldichloroarsine*, m.p. 29—30°, converted by aq. H_2O_2 at room temp. into 4-*chloromethylphenylarsinic acid*. p-$NH_2\cdot C_6H_4\cdot CH_2\cdot CN$ in MeOH is similarly converted into 4-*carboxymethylphenyldichloroarsine* (II), m.p. 99—100° and 4-*cyanomethylphenyldichloroarsine* (III), m.p. 56—57°. This treated successively with $NaHCO_3$ and H_2O_2 affords 4-*cyanomethylphenylarsinic acid* (IV), not melting at 280°. (IV) in HCl and SO_2 give (III), converted into the *oxide*, sinters at 216°, m.p. 219—220° (decomp.), by aq. $NaHCO_3$. (IV) in conc. HCl and SO_2 afford the *amide*, m.p. 143—145°, of 4-*carboxymethylphenyldichloroarsine*, m.p. 107·5—109°. R. T.

1ST AND 2ND ORDERS

PROCESSES AND PROPERTIES INDEX

BC

A-3

Dichloro-substituted phenylarsinic acids and their derivatives. G. I. BRAZ and I. V. TUTURIN

(J. Gen. Chem. Russ., 1939, 9, 993—995).—2 : 5-$C_6H_3Cl_2 \cdot NH_2$ in AcOH is diazotised in presence of $AsCl_3$ and CuCl, and the solution is heated at 100°, yielding 2 : 5-*dichlorophenylarsinic acid*, not melting at 250°, whence is obtained 2 : 5-*dichlorophenyldichloroarsine*, m.p. 56—57°. 2 : 4- and 3 : 4-*Dichlorophenylarsinic acid*, both not melting at 250°, and 2 : 4-, b.p. 167—168°/12 mm., and 3 : 4-*dichlorophenyldichloroarsine*, b.p. 175—176°/12 mm., are described. R. T.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

1ST AND 2ND ORDERS

3RD AND 4TH ORDERS

PROCESSES AND PROPERTIES INDEX

(1)

10

9-Acridyl halomethyl ketones. G. I. Braz and T. V. Gortinskaya. *J. Gen. Chem.* (U. S. S. R.) 10, 1751-6 (1940).—The present article deals with the prepn. of intermediates for the synthesis of possible antimalarial pharmaceuticals. Diphenylamine-o-carboxylic acid (50 g.) and 100 g. POCl$_3$ heated at 80°, then at 120°, taken up in CHCl$_3$ and shaken with dil. NH$_4$OH, on removal of CHCl$_3$ yields 92-4% 9-chloroacridine (I), m. 116-18°, in 92-4% yield. I (200 g.), 820 ml. MeOH and 50 g. NaCN autoclaved at 120° for 6 hrs. yield 160 g. *9-cyanoacridine* (II), m. 178-81°. II (18 g.) and 180 ml. 90% H$_2$SO$_4$, treated after 2 hrs. on a steam bath with 25 g. NaNO$_2$ with cooling, then again heated 2 hrs. on the steam bath, pptd. by H$_2$O, extd. by dil. KOH and repptd. by 5% H$_2$SO$_4$, yield 15-18 g. *9-carboxyacridine* (III), m. 283-4° (decompn.). III (10 g.) and 30 ml. SOCl$_2$, heated and treated with 120 g. PhH, ppt. 8 g. of *9-chlorocarbonylacridine-HCl* (IV), m. 225-7° (decompn.). CH$_2$N$_2$ (from 9.2 g. MeN(NO)-CONH$_2$) in ether and 4 g. powd. IV at 0-5° yield 2.2-2.4 g. *9-diazoacetylacridine* (V), m. 146-7° (decompn.). Crystd. from MeOH, it m. 149-50° (decompn.). V (0.5 g.), in 4 ml. AcOH, treated with 0.5 ml. concd. HCl yields *9-acridyl chloromethyl ketone hydrochloride*, decomp. 236° (from AcOH). V (5.6 g.), in 104 ml. AcOH (96%), treated with 7 ml. of 48% HBr yields the corresponding Br compd., decomp. 249-50° (from AcOH). The free base is formed by grinding the HCl salt with NaHCO$_3$ soln., followed by crystn. from PhH. *9-Acridyl bromomethyl ketone*, yellow, m. 150-2°. G. M. K.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

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Ca

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Reaction of arsenic trichloride with diazomethane. G. I. Braz and A. Ya. Yakubovich. *J. Gen. Chem.* (U. S. S. R.) 11, 41-4(1941).—$AsCl_3$ and CH_2N_2 react very readily without the use of a catalyst, in contrast to the aromatic diazo compds. CH_2N_2 (from 16 cc. MeN(NO)CO_2Et) is directly distd., from Et_2O soln., into a cooled and shaken soln. of 18.1 g. $AsCl_3$ in 200 cc. abs. Et_2O. Strong reaction occurs with N evolution; the reaction mixt., after standing for 3 hrs., is freed of Et_2O and the residue fractionated *in vacuo*. The combined products of 20 runs yielded 40 g. *$ClCH_2AsCl_2$* (I), b_{14} 57-8°, d_4^{20} 1.9000, and 80-82 g. *$(ClCH_2)_2AsCl$* (II), b_{14} 80-8°, d_4^{20} 1.8485. Both products are oils with characteristic odors, sol. in dry org. solvents, decompd. by moisture and O. I (1.6 g.) and 3 cc. H_2O treated with 2 cc. 15% H_2O_2 with cooling, shaken for 12 hrs., filtered and concd. under 35° yields *$ClCH_2AsO(OH)_2$*, crystd. from Me_2CO, shrinks at 133-5°, decomps. partially 148°, remains unchanged then up to 250°, sol. in H_2O and hydrophilic solvents. II (1.5 g.) in 9 cc. H_2O, cooled, and shaken with 6 cc. 15% H_2O_2 for several hrs. at room temp. yields, upon repeated vacuum evapn. with addns. of MeOH, *$(ClCH_2)_2AsOOH$*, fusing at 102°, m. 117-20° (decompn.), sol. in H_2O, MeOH, EtOH, Me_2CO. G. M. Kosolapoff

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9-Acridyl ω-halomethyl ketones. II. Derivatives of 2-
methoxy-6-chloroacridine. G. I. Braz. *J. Gen. Chem.*
(U. S. S. R.) 11, 851-8(1941); cf. *C. A.* 35, 4025¹.—
B. continued his work on the prepn. of acridyl halomethyl
ketones by studying the prepn. of derivs. of 2-methoxy-6-
chloroacridine. 2-Methoxy-6,9-dichloroacridine (41.7 g.),
13 g. NaCN and 1 l. MeOH were heated in an autoclave
to 110-12° with stirring for 5 hrs.; on cooling, a green-
yellow ppt. (A) was filtered off, washed with MeOH,
then with H_2O, and dried. A was a mixt. of *2-methoxy-6-*
chloro-9-cyanoacridine (I) and *2-methoxy-6-chloroacridone*,
(II), weighing 31 g. The mixt. was treated with 10 vols.
98-8% AcOH, boiled, let stand overnight, filtered and the
ppt. washed with H_2O, dried and extd. with 750 cc. boiling
benzene, which on cooling deposited 11 g. (I), m. 214-16°.
The mother liquor on evapn. yielded 5 g. more of the prod-
uct. Repeated crystn. from benzene raises the m. p. to
217.5-18.5°; addn. of concd. HCl to a hot AcOH soln.
yielded a cryst. *HCl salt*, which, however, hydrolyzed on
washing even with cold MeOH. The benzene-insol.
residue from I on recrystn. from iso-AmOH or glacial
AcOH yielded II, does not m. 300°. The MeOH filtrate
from ppt. A on evapn. to a small vol. deposited 5.5 g.
2,9-dimethoxy-6-chloroacridine, m. 158.5-60° (from MeOH,
then from petr. ether). Ten g. I in 41 cc. 91% H_2SO_4 and
31 cc. 97% AcOH was heated at 95° for 2 hrs. with fre-
quent stirring, poured into 2 l. cold H_2O and the soln.
heated to 65-70° and filtered hot, the ppt. (IIa) being
washed with 200 cc. hot *N* H_2SO_4 and 200 cc. hot H_2O,
the filtrates neutralized with 25% NH_4OH, again heated to
70-5° and filtered hot from the ppt. (III). III was a mixt.
of amides of 2-methoxy-6-chloro-9-acridinecarboxylic
acid and 2-hydroxy-6-chloro-9-acridinecarboxylic acid;
it was extd. for 2-3 hrs. on a boiling water bath with 700 cc.
3% NaOH, filtered hot and the filtrate cooled to yield a
ppt. (IV). The insol. residue, washed with 400 cc. hot 3%
NaOH and 250 cc. hot H_2O (repeated twice), was *2-meth-*
oxy-6-chloro-9-acridinecarboxamide, m. 284-6° (5.6 g.); the
compd. decomps. on heating above the m. p. On crystn.
from a large vol. of EtOH, it m. 289-90°. Ppt. IV was re-
crystd. from 3% NaOH, mixed with a large vol. H_2O and
acidified with 5% H_2SO_4 to Congo red with heating, yield-
ing *2-hydroxy-6-chloro-9-acridinecarboxylic acid*, m. 330-1°
(decompn.) (from EtOH). On extn. of ppt. IIa by boiling
benzene it is possible to recover 2 g. unchanged I; the insol.
residue treated with dil. alk. gives a red soln., which on
acidification gives a yellow ppt.; repeated crystn. from
AmOH gave *2-hydroxy-6-chloro-9-cyanoacridine*, darken-
ing at 328° so that the m. p. could not be observed. Ten
g. 2-methoxy-6-chloro-9-acridinecarboxamide is dissolved
with heating on a water bath in a mixt. of 40 cc. concd.
H_2SO_4 and 80 cc. 97% AcOH, cooled and treated with stir-
ring with 20 g. powd. $NaNO_2$, after which the temp. is
raised to 70° in 45 min., and held at 70-5° for 2 hrs.; the
contents are then poured into 1 l. cold H_2O, heated to 60-
70° and filtered. The ppt. is extd. with hot 5% K_2CO
and the alk. filtrates fractionally pptd. by 5% H_2SO_4 on a
boiling water bath, the ppt. is repeatedly dissolved in hot
2% K_2CO_3, filtered and pptd. by 5% hot H_2SO_4, yielding
6.4-6.7 g. acridinecarboxylic acid, m. 285-6° (decompn.),
which is purified as follows: 10 g. of the acid is dissolved
with heating in 72 cc. concd. H_2SO_4 and 144 cc. glacial

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AcOH, dild. with 440 cc. glacial AcOH, and treated with
H_2O until cloudy, heated with charcoal, filtered on cool-
ing, to yield 8 g. *2-methoxy-6-chloro-9-acridinecarboxylic*
acid, m. 287-8° (decompn.). The acid (5 g.) mixed with
25 cc. dry benzene and 15 cc. $SOCl_2$ was boiled for 2.5 hrs.,
decanted, the ppt. boiled with benzene, filtered and
washed with benzene; *2-methoxy-6-chloro-9-acridine-*
carbonyl chloride-HCl, m. 213-15° (decompn.) (5.2 g.), is
insol. in the usual solvents; treated with 25% NH_4OH
it yields the corresponding amide. The *free acid chloride*
can be obtained by treating 0.5 g. HCl salt with 50 cc.
benzene and 2 cc. satd. aq. $NaHCO_3$ with shaking, and
evapg. the benzene; it m. 170-8° (sealed tube). CH_2N_2 in
benzene (from 6 g. nitrosomethylurea) is treated at 6-8°
with 2 g. of the above HCl salt added over 0.5 hr. with
stirring; after 45 min. the cooling is stopped and the mixt.
let stand 2 hrs. in the dark with occasional stirring; after
standing overnight, it is filtered if necessary, evapd. to
dryness *in vacuo* (under 35°) in the dark, and washed with
Et_2O; the diazo ketone (1.3 g.), decomps. 148°, may be
recrystd. from benzene or MeOH (without long heating);
3-methoxy-6-chloro-9-diazoacetylacridine, decomps. 151-
2°. The diazo ketone (1.33 g.) mixed with 10.6 cc. 96%
AcOH was treated gradually with 1.3 cc. concd. HCl, the
compd. going into soln. and rapidly pptg. *2-methoxy-6-*
chloro-9-acridyl chloromethyl ketone-HCl, which was filtered
off after standing overnight, and washed with Et_2O, m.
231-3° (decompn.) (1.33 g.); crystd. from glacial AcOH,
it m. 233-5° (decompn.); the free *base*, obtained from the
HCl salt by addn. of 250 cc. H_2O to 0.63 g. salt in 100 cc.
96% AcOH, heating until near soln., and cooling, m. 172-
4° (from Me_2CO). The diazo ketone (0.6 g.) in 18 cc. 96%
AcOH was treated with stirring with 1.4 cc. 47.5% HBr
added gradually; after standing overnight the product was
filtered and washed with Et_2O; *2-methoxy-6-chloro-9-*
acridyl bromomethyl ketone-HBr, m. 237-8° (decompn.),
245-6° (from glacial AcOH); yield, 0.73 g.; the free *base*,
obtained by hydrolysis as above, m. 164-6° (crude), 167-8°
(from MeOH). G. M. Kosolapoff

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Formanilide as raw material for sulfonamide preparations. I. Sulfanilamide from formanilide. G. I. Braz, O. P. Al'bitskaya, and M. L. Shkral. *J. Applied Chem.* (U.S.S.R.) 17, 502-5(1944)(English summary).—Because of deficits in AcOH production in U.S.S.R., the use of HCO_2H in the production of sulfa intermediates was studied. Successful lab. syntheses were devised as follows. $ClSO_3H$ (62.5 cc.) is cooled and treated with stirring, at 15-20°, with 24.2 g. 98% HCONHPh; the mixt. is then heated to 75-80° for 2 hrs., then cooled and poured on 150 g. ice, with addn. of 160-200 g. ice to avoid a temp. rise to over 3°. After filtration and washing with ice water, there is obtained a paste of 42-52% *N-formylsulfanilyl chloride*, with av. yields of 83-4%. Extn. with hot dichloroethane yields a pure compd., m. 154-5°, but due to considerable losses during the purification this step is avoided as the crude paste is suitable for the next step, in which 90 cc. 22% NH_4OH is treated with stirring at 12-15° with 140 g. of a 41.5% paste of the above chloride; after stirring for 1-2 hrs. and standing overnight the N^4-formylsulfanilamide (I) is filtered off, washed with ice-water, and dried; the yield averages 80-3% of a product m. between 155-62° in 3-4° range. Pure I m. 165-6° (from EtOH). Hydrolysis with 30% H_2SO_4 for 1 hr. at the b.p. gives 76% pure sulfanilamide, while 1 hr. hydrolysis by boiling 12% NaOH gives an 83% yield. **II. Sulfanilamide from N^4-formylsulfanilamide.** G. I. Braz and T. I. Fedichkina. *Ibid.* 506-7.—N^4-Formylsulfanilamide heated in an autoclave with water to 125-30° for 6 hrs. gave 70% sulfanilamide, m. 163-5°. Similar hydrolysis by 4.5% NH_4OH for 4 hrs. at 90-5°, gave an 81.0% yield. Heating under a reflux condenser at 90-5° for 6 hrs. with 4.5% NH_4OH gave 78% of sulfanilamide, m. 165-5.5°. **III. N^1-Acetylsulfanilamide preparation.** G. I. Braz. *Ibid.* 508-13(English summary).—N^4-Formylsulfanilamide (44.8 g.) and 134 cc. Ac_2O are refluxed for 2 hrs. with occasional agitation. The cooled mixt. is poured into 500 cc. water, let stand overnight, filtered, and washed with water. After drying at 60-70° there is obtained 96% of *N^1-acetyl-N^4-formylsulfanilamide*, decompg. 242-3° (248-9° after crystn. from EtOH). The above (10.4 g.) was boiled with 73 cc. alc. NaOH (98 g. NaOH per liter) for 1.5 hrs., after which the EtOH was distd. on a water bath and the residue dissolved in hot H_2O and, after cooling, neutralized to phenolphthalein by 1:2 HCl; after a brief boiling with 2 g. activated charcoal, and standing overnight, the mixt. was filtered and the filtrate neutralized to methyl orange by HCl (1:2) to yield 50% *N^1-acetylsulfanilamide*, m. 179.5-81° after drying at 60-70°. The charcoal after extn. with hot water gave 2.3 g. sulfanilamide. G. M. Kosolapoff

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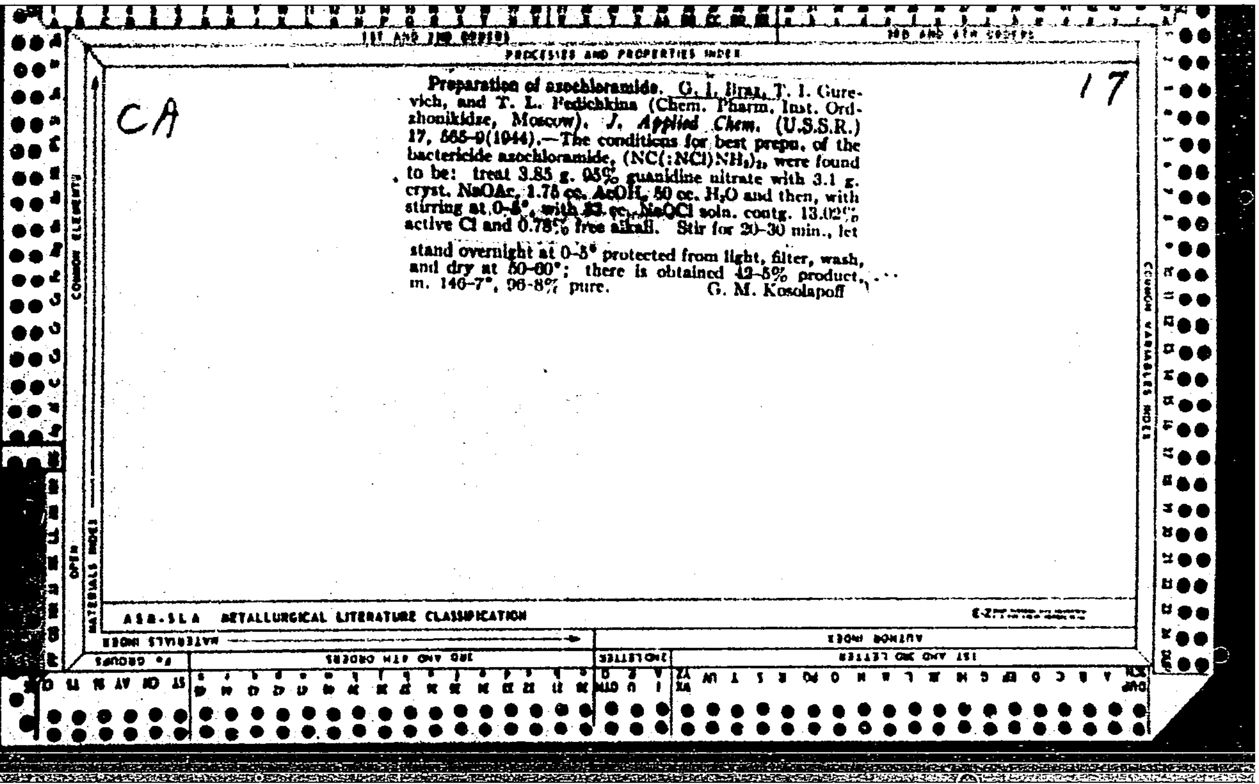

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Preparation of azochloramide. G. I. Braz, T. I. Gurevich, and T. L. Fedichkina (Chem. Pharm. Inst. Ordzhonikidze, Moscow). *J. Applied Chem.* (U.S.S.R.) 17, 565-9(1944).—The conditions for best prepn. of the bactericide azochloramide, $(NC(:NCl)NH_2)_2$, were found to be: treat 3.85 g. 95% guanidine nitrate with 3.1 g. cryst. NaOAc, 1.75 cc. AcOH, 50 cc. H_2O and then, with stirring at 0-5°, with 33 cc. NaOCl soln. contg. 13.02% active Cl and 0.75% free alkali. Stir for 20-30 min., let stand overnight at 0-5° protected from light, filter, wash, and dry at 50-60°; there is obtained 42-5% product, m. 146-7°, 96-8% pure. G. M. Kosolapoff

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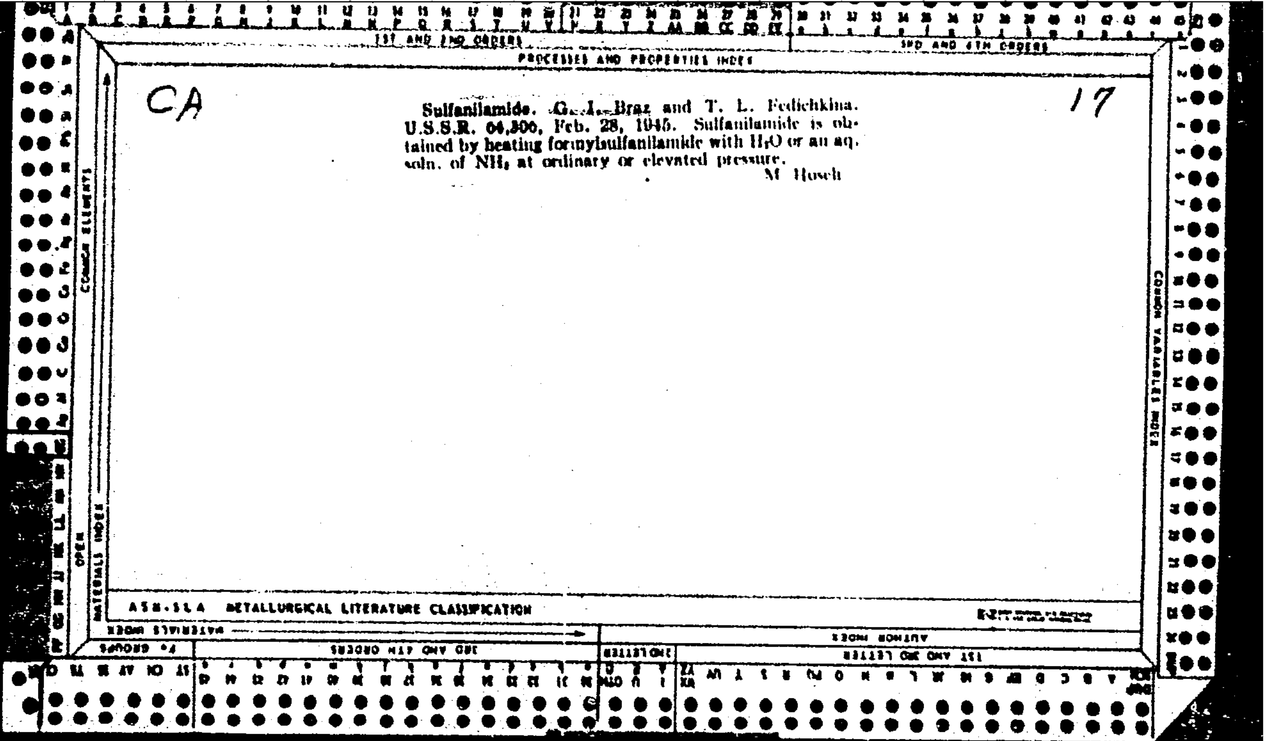

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Sulfanilamide. G. I. Braz and T. L. Fedichkina. **U.S.S.R. 64,300,** Feb. 28, 1945. Sulfanilamide is obtained by heating formylsulfanilamide with H_2O or an aq. soln. of NH_3 at ordinary or elevated pressure.

M. Hosch

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Sulfanilamide from diphenylurea. G. I. Braz, M. V. Lizgunova, and A. A. Chemerisskaya. *J. Applied Chem.* (U.S.S.R.) 19, 379-84(1946).—Because of shortage of AcOH in U.S.S.R. particularly during the war, alternate methods for the synthesis of sulfa drugs had to be devised to eliminate the need for AcNHPh and related Ac derivs. In the present work such an attempt through the use of $CO(NHPh)_2$ is described. $ClSO_3H$ (1240 g., 91.6%, d. 1.74) was treated with stirring at 15-20° with 440 g. 96.5% *$CO(NHPh)_2$*, and heated 2 hrs. to 58-60°, yielding a soln. contg. 22.9% *bis(4-sulfonyl chloride) deriv.* (78.9% yield); when 75 cc. of this soln. is treated with 200 g. ice and 150 cc. water there is obtained a semicolloidal paste of the bis(sulfonyl chloride) deriv., which can be filtered only with mild suction; extn. of the paste with hot Me_2CO yields the pure compd., m. 207-11°, while boiling the paste 0.5 hr. with an equal wt. of water yields sulfanilic acid. The paste (calcd. to contain 32.3 g. bis(sulfonyl chloride)) was added rapidly below 30° to 45 cc. 22% NH_4OH and 55 cc. water with good agitation, then stirred for 2 hrs., filtered, and washed with hot water, yielding 130-160 g. of paste of *4,4'-diphenylureadisulfonamide*, which contained about 20 g. of the pure compd.; for purification, 10 g. of the crude product in 80 cc. warm pyridine was decolorized and treated with 160 cc. hot water, yielding the pure product, m. 273-8° (4.5 g.). For purification of larger amts. it is more practicable to dissolve the crude product in 12% NaOH and ppt. by HCl after decolorization. The product has been shown to have beneficial effects in child dysentery and gonorrhea with a min. of secondary reactions. The product may be readily hydrolyzed to *sulfanilamide* either by refluxing 6 hrs. with 12% NaOH or autoclaving 7 hrs. at 140-5° with 4.5% NH_4OH with an over-all yield of 45-50% from diphenylurea. G. M. K.

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Interaction between ethylenimine and the aliphatic amines. G. I. Braz and V. A. Skorodumov. *Compt. rend. acad. sci. U.R.S.S.* 55, 315-17(1947)(in English).—$CH_2.CH_2.NH$ (I) reacts with dialkylamines with difficulty. Heating I and excess Et_2NH (II) at 110-20° 3.5 hrs. with and without Naturkupfer C gives no product. Addn. of a few drops of H_2O and heating 11 hrs. at 170-80° gives 4% $Et_2N(CH_2)_2NH_2$ (III). If 3 mol. % $Et_2NH.HCl$ is added the yield of III is increased to 20%. Similarly are prepd. $Pr_2N(CH_2)_2NH_2$, b_{20} 87-8°, n_D^{20} 1.4437, d_{20}^{20} 0.8200, 10% yield (*picrate*, decomp. 192-3.5°), and $Bu_2N(CH_2)_2NH_2$, b_{11} 107°, n_D^{20} 1.4449, d_4^{20} 0.8255 (*picrate*, decomp. 187-90°). I and II reacting in abs. alc. (without II.HCl) under the same conditions give 31% III, and 21% $Et_2N(CH_2)_2NH(CH_2)_2NH_2$ (IV), b_{14} 112-14°, n_D^{20} 1.4029, d_4^{20} 0.8701 (*picrate*, decomp. 204.5-5.5°). When 0.1 mol. I, 0.3 mol. 33% aq. II, and 0.03 mol. HCl/mol. I are refluxed 11 hrs., 32% III is obtained; if the HCl is increased to 1 mol./mol. I, 44% III and 13.6% IV are formed.

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Grigoriy Ivanovich
BRAZ, G. I.

PA 68T35

USSR/Chemistry - Arsine Feb 1948
Chemistry - Ethylene Oxide

"Reaction of Ethylene Oxide With Arsine," G. I. Braz, A. Ya. Berlin, Yu. V. Markova, All-Union Sci Res Chemicopharmaceutical Inst imeni S. Ordzhonikidze, Moscow, 3½ pp

"Zhur Obshch Khim" Vol XVIII (LXXX), No 2

Studies of interaction of ethylene oxide and hydrogen arsenide (arsine), diphenylarsine, and phenylarsine. During action of thioline chloride on products of reaction of ethylene oxide and diphenylarsine or phenylarsine, only known arylchlorarsine products were obtained. Submitted 20 Dec 1946.

[redacted] 68T35

BRAZ, G. I.

Reaction of ethylenimine with amines. G. I. Braz and V. A. Skorodumov. *Doklady Akad. Nauk S.S.S.R.* 59, 489-92(1948); cf. *C.A.* 41, 6527*f*.—Heating ethylenimine (I) in abs. alc. with amines in the presence of 3 mol. % HCl (although HBr, H_2SO_4, and P_2O_5 are equally effective) gave 20-30% yields of diamines, which are listed below. The use of benzene as solvent sharply reduces the yield. In a typical expt. 4.3 g. I, 14.6 g. Et_2NH, and 0.3 g. $Et_2NH.HCl$, boiled in 37 ml. abs. EtOH 11 hrs., gave 20.1% *N,N-diethyl-N'-(2-aminoethyl)ethylenediamine*, b_{25} 115-20°, 32.7% *N,N-diethylethylenediamine*, b_{101} 84-90°, and 1.3 g. *polyamine* fraction, $b_{1.5}$ 65-130°; the combined polyamines from many runs on distn. gave some $C_{10}H_{28}N_4$ (adduct of 3 I to the amine), b_5 13[illegible]°, d_4^{20} 0.9085; if the $Et_2NH.HCl$ in the above expt. is replaced by 3 mol. % HCl the amt. of this tetramine rises to 23.7%. Diallylamine and I (3 mol. % HCl) gave 33.2% $(CH_2:CHCH_2)_2NCH_2CH_2NH_2$, b_{25} 79°, d_4^{20} 0.8523, n_D^{20} 1.4688 (*picrate*, m. 204-6°); diisoamylamine and I (1 mol. % H_2SO_4) gave 26.5% $(iso\text{-}Am)_2NCH_2CH_2NH_2$, b_9 106-8°, d_4^{20} 0.8221, n_D^{20} 1.4467 (*picrate*, m. 173-5°), and $(iso\text{-}Am)_2NCH_2CH_2NHCH_2CH_2NH_2$ (6.3%), b_5 145-7°, d_4^{20} 0.8532, n_D^{20} 1.4682 (*picrate*, m. 104-6°); $PhCH_2CH(NH_2)Me$ and I (3 mol. % HCl) gave 22.1% $PhCH_2CHMeNHCH_2CH_2NH_2$, b_{14} 135-6°, d_4^{20} 0.9620, n_D^{20} 1.5231 [*picrate*, m.p. not given; sulfate, decomp. 320°]; $PhNH_2$ and I (3 mol. % HCl) gave 13% $PhNHCH_2CH_2NH_2$, b_{19} 150-3° (*picrate*, m. 182-4°; *HBr salt*, m. 198-200°); piperidine and I (1 mol. % H_2SO_4) gave 61% *1-(2-aminoethyl)piperidine*, b_4 58-61° (*picrate*, m. 219.5-21°), and some $C_5H_{10}NCH_2CH_2NHCH_2CH_2NH_2$, b_4 104-5°, d_4^{20} 0.9378, n_D^{20} 1.4881 (*picrate*, m. 204-5°); morpholine and I (1 mol. % H_2SO_4) gave 55% *4-(2-aminoethyl)morpholine*, $b_{1.4}$ 69-70° (*picrate*, m. 229-30°), and a little *4-[2-(2-aminoethylamino)ethyl]morpholine picrate*, m. 235-6° (only a small sample obtained of the base, $b_{1.4}$ 120-2°). In the expt. with diallylamine there was also isolated 10.7% $(CH_2:CHCH_2)_2NCH_2CH_2NHCH_2CH_2NH_2$, b_{11} 119-20°, d_4^{20} 0.8988, n_D^{20} 1.4815 (*picrate*, m. 198-9°). Ethanolamine and I (3 mol. % amine-HCl) gave 28.3% *N-(2-hydroxyethyl)ethylenediamine*, b_{12} 128-32° [*picrate*, m. 218-19° (decompn.)], and some corresponding *adduct* of 2 moles of I, b_{10} 175-85°, which was apparently not an individual substance, produced by addn. of I to both the primary and secondary amino groups. Such diversification of action must be kept in mind in all polycondensations using I.

G. M. Kosolapoff

CA
1951

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Reaction of ethylene sulfide with amines. G. I. Braz (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* (J. Gen. Chem.) 21, 688-93(1951).—During the reaction of ethylene sulfide (I) with primary and secondary amines, the formation of amino mercaptans is accompanied by polymerization of I. In the presence of an amine in an ionizing solvent, the latter reaction is exclusive, but in inert solvents the 1st reaction may be carried out. Passage of ethylene oxide at −5° over 4 hrs. into 90 g. KCNS in 90 g. H_2O until the wt. gain is 70 g., stirring 3 hrs. at −5°, letting the mixt. stand overnight in the presence of a trace of $PhCH_2SH$ stabilizer, filtering, washing the upper layer with 20% NaCl, drying the product with $CaCl_2$ again in the presence of $PhCH_2SH$, and distg. gives 50% I, b. 53.5-5.0°, which can be stored 3-4 days without a stabilizer. Letting 6 g. I and 20.5 ml. Et_2NH in 20 ml. abs. Et_2O stand 4 days gives 57% *$Et_2NCH_2CH_2SH$*, b_{18} 55°, n_D^{20} 1.4665; a similar reaction in C_6H_6 heated 2 hrs. at 100° in a sealed tube gives an 80% yield; some I *polymer* forms in both cases. The latter procedure with $(iso\text{-}Am)_2NH$ gives 65% *$(iso\text{-}Am)_2NCH_2CH_2SH$*, b_5 104-5°, d_4^{20} 0.8650, n_D^{20} 1.4611; *HCl salt*, m. 107-9° (from EtOAc). Similarly hexylamine yields 58% *$C_6H_{13}NHCH_2CH_2SH$*, b_6 102-3°, d_4^{20} 0.8937, n_D^{20} 1.4700; *HCl salt*, m. 200-1° (decompn.). Diallylamine yields 68-74% *$(C_3H_5)_2NCH_2CH_2SH$*, b_4 83-4°, d_4^{20} 0.9411, n_D^{20} 1.4070. $Et_2NCH_2CH_2NH_2$ gives 46% *$Et_2NCH_2CH_2NHCH_2CH_2SH$*, b_2 92-3°, d_4^{20} 0.9264, n_D^{20} 1.4795; in 1 expt. the polymerization, which is exothermic, occurred immediately on mixing and no other product was isolated. $PhCH_2NH_2$ gave 68% *$PhCH_2NHCH_2CH_2SH$*, b_4 121-3°, d_4^{20} 1.0483, n_D^{20} 1.5611; *HCl salt*, m. 260-1° (from aq. EtOH). Letting 6 g. I and 18.6 g. $PhNH_2$ stand 5 days gave a little polymer and 60% *$PhNHCH_2CH_2SH$*, b_4 141-51° (crude), obtained in the same yield from 1 mole I and 2 moles $PhNH_2$ in 2 hrs. at 100°; the pure product b_4 138-9°, d_4^{20} 1.1011, n_D^{20} 1.6057; a small amt. of *$PhNHCH_2CH_2SCH_2CH_2SH$*, b_4 182-5°, also forms. $PhNHCH_2CH_2SH$ with $2,4\text{-}(O_2N)_2C_6H_3Cl$ in abs. EtOH in the presence of NaOH gave *$2,4\text{-}(O_2N)_2C_6H_3SCH_2CH_2NHPh$*, m. 108.5-9.5° (from iso-AmOH). Mixing 6 g. I and 17.4 g. morpholine in dry C_6H_6 in the cold and heating in an autoclave 2 hrs. at 100° gave 83% *$O(CH_2CH_2)_2NCH_2CH_2SH$*, b_4 73-80° (crude), b_6 77-9°, d_4^{20} 1.0870, n_D^{20} 1.5881; *HCl salt*, m. 150-2° (from EtOH-Et_2O), which on repeated crystallization m. 221-3°, possibly because of attendant oxidation to the *disulfide*.

G. M. Kosolapoff

BRAZ, G. I.

USSR/Chemistry - Synthetic Drugs 11 Jun 52

"The Reaction Between Acridyl-9-(ω-Bromomethylketone With Piperidine," G. I. Braz, All-Union Sci Res Chem-Phar Inst imeni S. Ordzhonikidze

"Dok Ak Nauk SSSR" Vol LXXXIV, No 5, pp 955 - 957

When acridylbromomethylketone reacts with piperidine, there is a partial formation of N-brompiperidine which reacts with some of the piperidine and yields piperidine hydrobromide. Although the properties of N-brompiperidine are not well known, it is known that it behaves similarly to N-chlorpiperidine, which is known to decompose on standing

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yielding the halogen acid salt of piperidine and tripiperidiene +KCl under the action of alcoholic KOH. This explains the 90% yield of piperidine hydrobromide accompanying the 25% yield of acrdyl-s (omega-lromomethylketone). Presented by Acad B. A. Kazanskiy 5 Apr 52.

223T10

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CATALYSTS

Chem

C.A. V-48
Jan 10, 1954
Organic Chemistry

8-31-54

Direct introduction of 2-aminoethyl group into the benzene ring. G. I. Braz (S. Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow). *Doklady Akad. Nauk S.S.S.R.* 87, 589-92(1952).—The 2-ethylamino group can be introduced into an aromatic ring by means of ethyleneimine (I) in the presence of $AlCl_3$. To 10.2 g. $AlCl_3$ and 18 ml. abs. C_6H_6 was added without access of atm. moisture 2.1 ml. I in 14 ml. abs. C_6H_6, the ampul sealed and shaken (highly exothermic), then heated 7-8 hrs. to 120-30°, the products from 2 runs combined, treated with ice, concd. KOH, extd. with Et_2O and the combined org. layer distd., gave 60% *$PhCH_2CH_2NH_2$*, b_{20-1} 93-100°, pure product, b_{15} 84° (after 2 distns.); *HCl salt*, m. 218.5-20°; deriv. with PhNCO, *N-phenethyl-N'-phenylurea*, m. 154-5°. For aromatic compds. that boil at 120° or higher, the sealed ampul is unnecessary. Thus, to 46 ml. EtPh was added 20.4 g. $AlCl_3$, followed at 0-5° with 4.2 ml. I in 40 ml. EtPh, stirred 0.5 hr., then refluxed 7-8 hrs. giving after usual treatment, an unstated yield of *(ethylphenethyl)amine*, probably *isomeric mixt.*, b_1 88-93°, d_{20} 0.9424, n^{20}_{D} 1.5228; *HCl salt*, m. 204.5-6.5°; *picrate*, m. 170-1°. Similar reaction with PhCl gave 40% mixed *(chlorophenethyl)amines*, b_{17-18} 118-21°, b_{15} 111-12°, which on treatment with BzCl gave 2 *Bz derivs.*; the 1st of these, m. 147-9°, appears to be *N-benzoyl-p-chlorophenethylamine*, while the 2nd, m. 69-70°, appears to be the *o-chloro analog*, since its hydrolysis with AcOH-HBr at 170-80° 6 hrs. followed by treatment with p-$O_2NC_6H_4COCl$ gave the *p*-nitrobenzoyl deriv., m. 114.5-16°. Reaction of I with *PhOMe* gave a mixt. of products, b_{15} 124-44°; from which an *HCl salt*, m. 217-19°, was isolated, and identified as *$PhOCH_2CH_2NH_2.HCl$*; the higher-b. fractions gave an *HCl salt*, m. 2[illegible]-14°, apparently *p-methoxyphenethylamine.HCl*; treated with KCNO it gave *p-methoxyphenethylurea*, m. 129.5-30.5°. Similar reaction with $PhNO_2$ failed to occur. Apparently I reacts as a complex with $AlCl_3$. For best results high grade of $AlCl_3$ is necessary. At 170-80° yields of 70-80% are obtained with C_6H_6. G. M. K.

BRAZ, G.I.

[redacted]

Reaction of 1,2-ethyleneimines with benzene. Doklady Akad. Nauk S.S.S.R.
87, 747-50 '52.
(CA 48 no.2:569 '54) (MIRA 5:12)

1. S.Ordzhonikidze All-Union Chem.-Pharm. Inst., Moscow.

A new method for preparing 8-phenylethylamines was recently described. The method is based on the direct introduction of the 8-aminoethyl group into the benzene with the aid of ethyleneimine. This reaction was investigated further in the present work with the use of N-substituted ethyleneimines. Presented by Acad B. A. Kazanskiy 6 Oct 52. 254T4

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Chemical Abst.
Vol. 48
Apr. 10, 1954
Organic Chemistry

Some 9-substituted derivatives of acridine. G. I. Brass and S. A. Kore (S. Ordzhonkidze All-Union Ch[illegible] Inst., Moscow). *Zhur. Obshchei Khim.* 23, 868-74(1953).—To 65 ml. EtOH, 18 ml. concd. NH_4OH, and 3 ml. 10% $AgNO_3$ was added over 2 hrs. at 70-5° 3 g. powd. 9-diazoacetylacridine, yielding on cooling 80% *9-acridineacetamide* (I), decomp. 260-1° (from EtOH), which can be purified by reptn. from cold acids with alkalies. Refluxed 1.5 hrs. with 20% HCl, it gave 80% *9-methylacridine*, m. 118-19° (from dil. EtOH); if the hydrolysis is run with 25% KOH in MeOH 10 hrs. at reflux, only 22% 9-methylacridine is formed, the rest of the product being 9-acridanone, m. 353-4°. The amide (1 g.) in 12 ml. 96% AcOH and 1.8 ml. 91% H_2SO_4 heated to 70°, treated dropwise with 2 ml. 20% $NaNO_2$, warmed 5 min., and quenched in H_2O gave after addn. of dil. KOH an unstated yield of 9-methylacridine. I (0.85 g.) in 12 ml. 96% AcOH and 1.8 ml. 91% H_2SO_4 treated at room temp. with 2.4 g. powd. $NaNO_2$, warmed 2 hrs., to 75-80° and quenched in 100 ml. H_2O gave an amorphous ppt., which was taken up in Na_2CO_3, filtered, and acidified with dil. HCl, yielding 0.45 g. *9-acridinecarboxylic acid*, decomp. 279-81° (crude), decomp. 283-4° (from AcOH). With $SOCl_2$ in C_6H_6 it yields the *acyl chloride-HCl*, decomp. 214-15°, which with NH_4OH gave the *amide*, decomp. 263-4° (from EtOH). 9-(Diazoacetyl)-acridine (1 g.), slowly added to 8 ml. boiling AcOH contg. a little $Cu(OAc)_2$ and boiled briefly, after all N evolution stopped, gave 0.65 g. *9-acridinyl acetoxymethyl ketone*, m. 183-4° (from EtOH). 9-Acridinyl bromomethyl ketone (3 g.) in dry C_6H_6 and 3.9 ml. piperidine kept in the dark 6 hrs., yielded a ppt., which, extd. with H_2O, left 0.1 g. acridanone (the water-sol. portion being piperidine-HCl). The org. layer, evapd. and treated with MeOH gave 0.85 g. greenish solid, m. 127-30° (decompn.), which yields 9-acridanone with MeOH or C_6H_6. The crude product appeared to be essentially *9-acridinyl piperidinomethyl ketone*. The MeOH soln. yielded *9-acridinyl Me ketone*, isolated as the *chloroplatinate*, decomp. 244-6°, and *picrate*, decomp. 245-6°; *free ketone*, m. 101-3° (from petr. ether). Similar reaction with Et_2NH gave an unknown substance, m. 192-5° (decompn.), some 9-acridanone, and 9-acridinyl Me ketone, isolated as the picrate.

G. M. Kosolapoff

BRAZ, G.I.

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Some 9-substituted derivatives of acridine. G. I. Braz and S. A. Kore. *J. Gen. Chem. U.S.S.R.* ~~23, 003-13~~ (1953) (Engl. translation).—See *C.A.* 48, 3970*i*.

H. L. H.

Moscow). [illegible] Chem.-Pharm. Inst.
To 48 g. $MeO]3,4-(MeO)_2C_6H_3]CHCH_2NO_2$ [illegible] (1953).—
240 ml. 85% HCO_2H at −10° is added with stirring at
0-2° over 3.5 hrs. a paste of 137 g. 98.5% Zn dust in 300
ml. 10% $CuSO_4$, the mixt. stirred 0.5 hr. at 0°, gradually
warmed to room temp., finally to 50°, allowed to stand 12
hrs., cooled to −10°, filtered, the ppt. washed with cold
85% HCO_2H and MeOH, the filtrates concd. *in vacuo*,
dild. with 2 vols. H_2O, extd. with C_6H_6, the aq. soln.
treated with 130 ml. 35% NaOH, filtered, extd. repeatedly
with C_6H_6 and the ext. evapd., yielding 67% *MeO]3,4-*
(MeO)$_2$C$_6$H$_3$]CHCH$_2$NH$_2$, b_{13} 170-2°. This (30.4 g.),
28.0 g. homoveratric acid, and 140 g. tetrahydronaphtha-
lene (dried over Na in a H atm.) are heated in H atm. until,
at 210-35°, about 105 ml. distillate is obtained (about 3
ml. H_2O), the solvent is removed *in vacuo*, and the
residue extd. with hot MeOH, yielding 93.5% *N-(β-meth-*
oxy-3,4-dimethoxyphenethyl)homoveratramide, m. 151.5-2.0°.
This (41 g.) and 160 ml. freshly distd. $POCl_3$ are slowly
heated in N 4 hrs. to 60°, the $POCl_3$ is removed *in vacuo*
in N, the residue treated with 425 ml. ice H_2O, the mixt.
kept 12-18 hrs. at 0°, heated to 40-50°, extd. 4 times with
hot C_6H_6, the ext. in turn extd. with warm 2% HCl, and
the HCl ext. combined with the main aq. soln., heated to
60-70°, and made alk. to litmus with Na_2CO_3, yielding a
ppt. of 88% *papaverine*, m. 141-4°. Purification by con-
version to the oxalate (which is purified by crystn. from
H_2O with 3% hydrosulfite and activated C) and liberation
of the base gave, from 59.0 g. crude product, about 29.5 g.
pure base, m. 146-7° (from EtOH). About 15.2 g., m.
145-4° or 144.5-5.5°, can be recovered from the mother
liquors. Further repptn. from the HCl salt soln. in the
presence of C yields a 47% recovery of pure product [*HCl*
salt, m. 230-1° (decompn.)]. G. M. Kosolapoff

BRAZ G. I.

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Synthesis of ethyleneimines. G. I. Braz (S. Ordzhoni~~kidze All-Union Sci. Research Chem.-Pharm. Inst., Moscow).~~ *Zhur. Obshchei Khim.* 25, 763-7; *J. Gen. Chem. U.S.S.R.* 25, 731-4(1955)(Engl. translation).—Ethyleneimines are prepd. in best yields from HCl salts of the corresponding 2-chloroalkylamines. To 135 g. $HOCH_2CH_2NH_2.HCl$ (obtained by evapn. of its aq. soln. and contg. still some 5% H_2O) was added at 5-10° 130 ml. $SOCl_2$ and slowly heated to 55° 1.5-2 hrs. until the mass became solid, kept 45-60 min. on a steam bath and freed of volatile materials at water pump pressure, yielding a residue of 150-2 g. $ClCH_2CH_2NH_2.HCl$; this (100 g.) heated with stirring with 340 ml. 27% KOH with distn. of 100 ml. of distillate collected in a chilled receiver, the distillate dried with fused KOH, best in a refrigerator, distd., and a fraction, b. 55-75°, dried and redistd. gave 23 g. *ethyleneimine*, m. 55-7°; the residue treated with KOH can yield more product. To 31 g. $HOCH_2CH_2NHCHMeEt$ in 50 ml. H_2O was added with cooling 26.3 g. 93.1% H_2SO_4 in 50 ml. H_2O, and the mixt. was concd. to a pot temp. of 115°; the residue was concd. at water pump vacuum to a bath temp. of 175° in 1 hr., kept at 175° 2 hrs. and the partly cooled residue broken up, treated with 40 g. NaOH and 60 ml. H_2O and distd., collecting about 35 ml. distillate; the latter treated, with cooling, with 25 g. KOH, the org. layer was sepd. and dried with fused KOH, then distd. over Na (allowed to stand a few hrs. over Na), yielding 10 g. *N-(2-butyl)ethyleneimine* (I), b. 96.5-8°. The residue freed of pptd. mineral salts was extd. with C_6H_6 and the latter distd. yielding 3.7 g. original amino alc. I forms in 35.5% yield when 16 g. $HOCH_2CH_2NHCHMeEt$ in 120 ml. Et_2O was treated with cooling with dry HCl (5.5-6 g.), filtered, the pptd. HCl salt treated with 13.5 ml. $ClSO_3H$, heated 40 min. at 90°, freed of low-boiling matter at the water pump, and the residue kept 1.5 hrs. at 145° *in vacuo* and treated with ice-cooling, with 28 g. KOH. Treatment of 58.6 g. $HOCH_2CH_2NHCHMeEt$ in $CHCl_3$ with dry HCl at 3-5°, followed by 90 ml. $SOCl_2$, refluxing 1.5 hrs., followed by distn. of low b. material at the water pump and soln. of the residue in 150 ml. H_2O, boiling with C, and evapg. to dryness *in vacuo* gave 90.4% $ClCH_2CH_2NHCHMeEt.HCl$, m. 138.5-40° (from EtOH). This heated with 27% KOH 45 min., followed by distn. to 104° pot temp. gave after purification as described above 71.7% I, m. 96.5-9°. To 1.41 g. hexamethylenediisocyanate in dry Et_2O was added 1.2 ml. 1,2-propyleneimine and the pptd. oil was allowed to solidify for several days, yielding 2.1 g. $[(CH_2)_3NHCO\overline{N.CH_2.CH}Me]_2$, m. 64-5° (from Et_2O). Similar reaction with 2,2-dimethylethyleneimine (II) gave $[(CH_2)_3NHCO\overline{N.CH_2.C}Me_2]_2$, m. 131-2° (from EtOAc). II and 2,4-tolylenediisocyanate gave 90% $1,2,4\text{-}MeC_6H_3(NHCO\overline{N.CH_2C}Me_2)_2$, m. 155-8° (from EtOAc).

G. M. Kosolapoff

BRAZ, G. I.

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Preparation of some ethylenimino-1,3,5-triazines. G. I. Braz (S. Ordzhonikidze All-Union Sci. Research Chem.-Pharm. Inst., Moscow). *Zhur. Obshchei Khim.* 25, 1413-17 (1955).—Condensation of ethyleneimine (I), with mono- and dichloro-1,3,5-triazines with various substituents gave the corresponding ethyleneiminotriazines. I (5.2 ml.) in C_6H_6 treated at 6-10° with 3.6 g. 2-ethyl-4,6-dichloro-1,3,5-triazine and stirred 3 hrs. at room temp. gave, on the following day, 64.2% *2-ethyl-4,6-bis(ethylenimino)-1,3,5-triazine*, m. 65-5.5° (from petr. ether). This can be stored in the pure state, but in impure condition the compd. acquires color rapidly. Similarly were prepd.: 96.7% *2,4-diphenyl-6-(ethylenimino)-1,3,5-triazine*, m. 144-5°; *2-methoxy-4,6-bis(ethylenimino)-1,3,5-triazine*, m. 120-20.5° (from EtOAc) (this also formed from 2,4-bis(ethylenimino)-6-chloro-1,3,5-triazine and MeONa in C_6H_6); 76% *2,4-dimethoxy-6-(ethylenimino)-1,3,5-triazine*, m. 120-1° (from EtOAc); 50.3% *2-ethoxy-4,6-bis(ethylenimino)-1,3,5-triazine*, m. 75.5-6° (from hexane); *2-phenoxy-4,6-bis(ethylenimino)-1,3,5-triazine*, m. 104-5° (from EtOAc). 1,2-Propylenimine (12 ml.) in C_6H_6 mixed with 4.4 g. cyanuric chloride at below 16° and kept 8 days gave 2.07 g. *2,4,6-tris(1,2-propylenimino)-1,3,5-triazine*, m. 104-5° (from petr. ether). To 11.1 g. cyanuric chloride, 87 ml. abs. EtOH, and 7.5 ml. H_2O was added with stirring 10.2 g. $NaHCO_3$, the mixt. stirred 45 min., at 30°, cooled and dild. with H_2O, yielding 57.5% *2-ethoxy-4,6-dichloro-1,3,5-triazine*, m. 31.5-2.5° (from hexane). Reaction of 3.7 g. cyanuric chloride with 4.2 ml. I in C_6H_6 at room temp. gave after a brief refluxing 49.3% *2,4-bis(ethylenimino)-6-chloro-1,3,5-triazine*, decomp. 128° (rapid heating; from EtOAc). Refluxing 2,4-bis(ethylenimino)-6-chloro-1,3,5-triazine with $PhCH_2ONa$ in xylene gave 53.0% *2-benzyloxy-4,6-bis(ethylenimino)-1,3,5-triazine*, m. 127.5-9.5° (from EtOAc). *2-Isopropyl-4,6-dichloro-1,3,5-triazine* b_{14} 92°, and not b_{14} 101-4°, as indicated by Hirt, *et al.*, *C.A.* 46, 120*d*. Also in *J. Gen. Chem. U.S.S.R.* 25, 1359-62 (1955) (Engl. translation). G. M. Kosolapoff

Braz, G.I.

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Chem Ethyl ester of α-hydroxyisobutyric acid. G. I. Braz and V. A. Skorodumov. *J. Gen. Chem. U.S.S.R.* 25, 2257 (1955)(Engl. translation).—See *C.A.* 50, 9291e. 2

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BRAZ, G.I.; SKORODUMOV, V.A.

Ethyl ether of α-oxyisobutyric acid. Zhur.ob.khim.25 no.12: 2289 N '55. (MIRA 9:4)

1.Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut imeni S.Ordzhonikidze.

(Isobutyric acid)

BRAZ, G.I.

Vibrational spectra of ethylenimine and its alkyl substitution products. Yu. N. Sheinker, E. M. Peresleni, and G. I. Braz (S. Ordzhonikidze Sci.-Research Chem.-Pharm. Inst., Moscow). *Zhur. Fiz. Khim.* 29, 518-22(1955); cf. Hoffman, *et al.*, *C.A.* 45, 8889*c*.—The Raman and infrared spectra were measured of ethylenimine, 2-methylethylenimine, 2,2-dimethylethylenimine, *N*-isopropylethylenimine, *N*-*sec*-butylethylenimine, and *N*-cyclohexylethylenimine. The absorption spectra of all these compds. are shown in the interval from 2 to 13 μ. Vibration spectra are tabulated. The strain present in the 3-membered rings of 1,2-alkylenimines leads to an increase in the frequency of the valence vibrations of C-H bonds and a decrease in the characteristic frequency of the N-H bonds. Neither formation of the ring nor strain within it has any effect on the molar refraction of any of the compds. I. W. L., Jr.

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Braz, G. I.

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Chem

β-Chloroethylamide of nicotinic acid. G. I. Braz and Yu. A. Skorodumov (*Zh. obshch. Khim.* 1956, **26**, 770-773).—By reacting an ethereal solution of the ethylenimide of nicotinic acid with HCl in anhyd. alcohol, good yields of the hydrochloride (I) of nicotinic acid β-chloroethylamide were obtained. This was easily converted to the dihydrochloride (II) of the β-aminoethyl ester of nicotinic acid by boiling in aq. solution. I when heated with a calc. quantity of alkali in aq. solution formed 2-(pyrid-3-yl)-Δ^2-oxazoline (III) in 90% yield. III is converted to the β-hydroxyethylamide of nicotinic acid very slowly when boiled with water. In acid media, however, the oxazoline ring easily undergoes cleavage, even when cold. By adding the calc. amount of alcoholic HCl to an ethereal solution of III, II was obtained and not the dihydrochloride of III as earlier reported.

A. L. B.

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BRAZ, G.I.

2-Chloroethylamide of nicotinic acid. G. I. Braz and V. A. Skorodumov. J. Gen. Chem. U.S.S.R. 26, [illegible] (1956)(English translation).—See C.A. 50, 14711d. B. M. R.

SOV/79-28-11-16/55

AUTHORS: Braz, G. I., Antonov, V. K.,
Kurdyumova, K. N.

TITLE: On Some Ethylenimino-1,3,5-Triazines (O nekotorykh etilenimino-1,3,5-triazinakh)

PERIODICAL: Zhurnal obshchey khimii, 1958, Vol 28, Nr 11,
pp 2972 - 2977 (USSR)

ABSTRACT: As is known, for the past 6 years the 2,4,6-triethylenimino-1,3,5-triazine (TET) has been already used as a medical preparation against new growths; its use is, however, limited as it has very high toxic effects. With the intention of finding compounds with higher chemotherapeutical efficiency the authors synthesized already earlier (Ref 1) the compounds (I)-(X) which have a similar structure as TET, and have two ethylenimine residues as well as a substituted amino, alkoxy, or alkyl mercapto group. These compounds were obtained by the condensation of the 2,4-diethylenimino-6-chloro-1,3,5-triazine with the corresponding amines or sodium alcoholates and sodium mercaptides in anhydrous solvents. Some amino diethylenimino

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On Some Ethylenimino-1,3,5-Triazines SOV/79-28-11-16/55

triazines were synthesized by the condensation of the 2-amino-4,6-dichloro-1,3,5-triazine with ethylenimine for reasons of comparison. According to this method also the compound (I) obtained already by American scientists in another way was synthesized. The synthesized ethylenimino triazines are white crystalline products and are stable at low temperatures. Only the compound (II) is an exception as it could not be obtained in crystalline state. The results of the biological investigations have not yet been obtained. There are 4 references, 2 Soviet references.

ASSOCIATION: Institut eksperimental'noy patologii i terapii raka Akademii meditsinskikh nauk SSSR (Institute of Experimental Pathology and Cancer Therapy of the Academy of Medical Sciences,USSR)

SUBMITTED: September 28, 1957

Card 2/2

L 12337-63 MAY

S/081/63/000/005/037/075

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AUTHOR: Braz, G. I., Antonov, V. K. and Kudryumova, K. N.

TITLE: 2-replaceable 4.6-diethylenimino-1,3,5 triazines

PERIODICAL: Referativnyy zhurnal, Khimiya, no. 5, 1963, 251, abstract 5Zh249 (Tr. In-ta eksperim. i klinich. onkol. AMN SSSR, 1960, no. 2, 124-127)

TEXT: Through condensation of 2-R-4,6-diethylenimino-1,3,5-triazine (I) (R = Cl), (Ia) with corresponding alcoholate or mercaptide of Na I (R = alkoxy or alkylmercaptide) were synthesized. I (R = N-substituted amino) is obtained by two methods. Method A: cyanure chloride (II) is condensed with amine and introduced into reaction with ethylenimino (III). Method B: Ia is obtained from II and III, in which the atom of chlorine is replaced by the primary or secondary amine radical. 0.37 g of Na is heated with 5 ml of xylol to boiling, crushed Na is added, it is cooled and 3.1 g of β-ocyethylpiperidine is added, it is heated for 2 hours at 70°C, cooled again and 3 g of Ia are added. It is again boiled for 2 hours and filtered. The filtrate is steamed in a vacuum without heating. 2.3 g of the residue are dissolved in ether. After partial concentration by steaming, I is obtained from the filtrate /R = β-(N-piperidino)-ethoxy/ with a yield of 39%, m.p.

Card 1/3

L 12337-63

S/081/63/000/005/037/075

2-replaceable 4.6-diethylenimino- ....

111 - 112°C. Similarly, I is obtained (the data below give R, yield in %, m.p. in °C): $(C_2H_5)NCH_2CH_2O$, 65, 61.5 - 62.5 (from petr. ether); β -(N-morpholino)-ethoxy, 47.4, 143 - 145 (from acetone). To 0.38 g of crushed Na in 5 ml of xylol in N_2 atmosphere 2 g benzyl mercaptane are gradually added. The mixture is heated for 2 hours at 70°C (Glycerin bath), it is cooled and 2.53 g of Ia in 53 g of C_6H_6 are added. The mixture is again heated for 2 hours at 80°C (temp. of the bath), filtered and steamed in a vacuum. The product obtained is I (R = benzylmercapto), yield 54.1%, m.p. 114 - 115°C (from acetone). To 0.026 moles of II in 100 ml of anhydrous ether over a period of 1 hour at -8 to -13°C, a solution of 0.057 moles of piperidine in 50 ml ether is added. It is agitated 30 min at -13°C, filtered and the residue rinsed with warm ether. The combined filtrates are refluxed in a vacuum until dry, and the obtained product 2-R-4,6-dichlor-1,3,5-triazine (VI) (R = piperidino), $C_8H_{10}N_4Cl_2$ (IVa), yield 61%, m.p. 90 - 90.5°C, (from petr. ether). Similarly, IV is obtained (the data gives R, composition formula, b.p. in °C); morpholino, $C_7H_8N_4OCl_2$, 157.5 - 158.6°C (from benzyl-petr. ether); benzylamino, $C_{10}H_8N_4Cl_2$, 116.3 - 117.8°C (from petr. ether). Iv (R = methylamino) is synthesized by the method described in (Diels O., Ber., 1899, 32, 691). To a solution 0.0457

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2-replaceable 4.6-diethylenimino- .....

moles of II in 25 ml of anhydrous C_6H_6 at 3 - 5°C a solution of 0.01 moles of
IVa in 25 ml anhydrous C_6H_6 is added. The mixture is agitated for 4 hours at 30 -
35°C and left standing 12 hours, filtered, the filtrate is steamed in a vacuum and
the product obtained is I (R = piperidino) (B), yield 34%, m.p. 130 - 131°C (from
benzene petr. ether).).0071 moles of Ia are dissolved in 40 ml of anhydrous
$CHCl_3$ and drop by drop a solution of 0.057 moles of piperidine in 20 ml $CHCl_3$ is
added, it is agitated for 4 hours at 18 - 20°C, the residue is filtered, and the
filtrate is steamed in a vacuum. Ib is obtained with yield of 70%. Similarly I
is obtained (the data gives R, method, yield in %, m.p. in °C): morpholino, A, 43,
B, 51, 132 - 133.2°C; $NHCH_2CH_2NC_5H_{10}$ (NC_5H_{10} = piperidyl), B, 56, 83.8 - 85.3;
$O < (CH_2CH_2) > NCH_2CH_2NH$, B, 34, 82.1 - 83.4. Ye. Tarasevich.

[Abstractor's note: Complete translation]

Card 3/3

YAKUBOVICH, A.Ya.; ZAYTSEVA, Ye.L.; BRAZ, G.I.; BAZOV, V.P.

Synthesis of 2,4,6-trialkyl- and 2,4,6-triaryl-1,3,5-triazines from imnoesters. Zhur.VKHO 7 no.2:229-230 '62. (MIRA 15:4)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova.
(Triazine) (Esters)

36058
S/063/62/007/002/012/014
A057/A126

11.2214

AUTHORS: Zaytseva, Ye.L., Braz, G.I., Yakubovich, A.Ya., Bazov, V.P., Petrova, L.G., Gitina, R.M.

TITLE: Synthesis of mixed 2,4,6-trialkyl-1,3,5-triazines and polymer triazine compounds from iminoesters

PERIODICAL: Zhurnal vsesoyuznogo khimicheskogo obshchestva imeni D.I. Mendeleyeva, v. 7, no. 2, 1962, 232 - 233

TEXT: In continuation of earlier experiments in which symmetric 2,4,6-trialkyl- and 2,4,6-triaryl-substituted 1,3,5-triazines were prepared by cyclization of iminoesters in the presence of catalytic quantities of their salts, 2,4,6-substituted triazines mixed in an analogous way were prepared by combined cyclization with esters of different iminoacids in the present investigation. When the paper published earlier was already in press, it was observed, that F. Schaefer, and G. Peters reported on the same subject [Ref. 2: J. Org. Chem., 26, 2778 (1961)]. If a mixture of ethyl esters of imino acid and imino butyric acid are cyclisized in the presence of 6 mole% of the chlorohydrate of iminoesters, a mixture of four substituted triazines is obtained, namely a) $R = R' = CH_3$

X

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Synthesis of mixed ......

S/063/62/007/002/012/014
A057/A126

(where R = positions 4 and 6, and R' = position 2 in the symmetric triazine), b) R = CH_3, R' = n-C_3H_7, c) R = n-C_3H_7, R' = CH_3, d) R = R' = n-C_3H_7. The composition of the mixture depends upon the proportion of the initial iminoesters. By distillation over metallic sodium the pure esters b) and c) could be separated and their characteristics determined. 2,4,6-tris-(δ-carboetoxybutyl)-triazine was synthesized by cyclization of the diethyl ester of mono-iminoadipic acid and specified. A structurized polymer was prepared by cyclization of the diethylester of bis-iminoadipic acid. The polymer is a yellow, crumbling substance, not soluble in common organic solvents, but swelling in benzene. The same polymer can be obtained from dibenzylester of bis-iminoadipic acid. According to the infrared spectrum the polymer contains triazine rings, and apparently C = NH groups. A triazine polymer can be obtained also by combined cyclization of diethyl ester of bis-imino adipic acid and ethyl ester of imino acetic acid. There are 1 table and 3 references.

ASSOCIATION: Fiziko-khimicheskiy institut im. L.Ya. Karpova (Physico-chemical Institute imeni L.Ya. Karpov)

SUBMITTED: December 22, 1961

Card 2/2

YAKUBOVICH, A.Ya.; ZAYTSEVA, Ye.L.; BRAZ, G.I.; BAZOV, V.P.

Syntheses in 1,3,5-triazine series. Part 1: Preparation of 2,4,6-trialkyl (aryl)-1,3,5-triazines from iminoesters. Zhur.ob.khim. 32 no.10:3409-3417 O '62. (MIRA 15:11)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.
(Triazine) (Esters)

ZAYTSEVA, Ye. L.; BRAZ, G. I.; YAKUBOVICH, A. Ya.; BAZOV, V. P.

Syntheses in the series of 1,3,5-triazine. Part 2: Preparation of mixed 2,4,6-trialkyl-1,3,5-triazines from imino ethers. Zhur. ob. khim. 33 no.1:199-202 '63. (MIRA 16:1)

1. Fiziko-khimicheskiy institut imeni L. Ya. Karpova.

(Triazine) (Ethers)

BRAZ, G.I.; MYASNIKOVA, G.V.; YAKUBOVICH, A.Ya.; BAZOV, V.P.;
SAKODYNSKIY, K.I.

Simultaneous trimerization of acetonitrile and trichloroacetonitrile.
Zhur.ob.khim. 33 no.6:1939-1941 Je '63. (MIRA 16:7)

1. Fiziko-khimicheskiy institut imeni L.Ya.Karpova.
(Acetonitrile) (Polymerization)

ACCESSION NR: AP4037281 S/0190/64/006/005/0838/0842

AUTHORS: Yakubovich, A. Ya.; Rozantsev, G. G.; Braz, G. I.; Bazov, V. P.

TITLE: Fluorinated polybenzimidazoles

SOURCE: Vy*sokomolekulyarny*ye soyedineniya, v. 6, no. 5, 1964, 838-842

TOPIC TAGS: polybenzimidazole, fluorinated polybenzimidazole, diaminobenzidine perfluoroglutarate polycondensation, diaminobenzidine diphenyl perfluoroglutarate, polyperfluorotrimethylenedibenzimidazole

ABSTRACT: Low-molecular poly-2,2'-(perfluorotrimethylene)-5,5'-dibenzimidazole (PPD) was synthesized by melting 0.5 gm 3,3'-diaminobenzidine with 0.92 gm diphenylperfluoroglutarate at 180C in an atmosphere of argon. Within 30 minutes the temperature was raised to 190C, and the heating was continued for another 30 minutes at 1.5 mm pressure. After grinding the reaction mass to a powder the heating was continued for 3 hours at the same pressure, with the temperature gradually increased to 220C. This procedure yielded polymer I. Polymer II was obtained by allowing the process to run the last three hours at 190C and 0.3 mm pressure. When the last stage was continued for 5 hours at 190C and 0.04 pressure,

Cord 1/2

ACCESSION NR: AP4037281

the resulting compound was labeled polymer III. The yield of polymers I, II, and III averaged 59%. They were dissolved in m-cresol from which they were precipitated by ether. The products were then analyzed and studied by infrared spectroscopy. Specific viscosities of 0.2% solutions of polymers I and III in cresol were found to be 0.035 and 0.055 respectively, while polymer II did not show any noticeable viscosity. Heating at 220-230C in an atmosphere of argon brought about the decomposition of the PPD polymer, with the liberation of fluorine. Orig. art. has: 2 tables, 2 formulas, and 1 chart.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physicochemical Institute)

SUBMITTED: 03Jun63 DATE ACQ: 09Jun64 ENCL: 00

SUB CODE: MT NO REF SOV: 003 OTHER: 004

Card 2/2

ZAYTSEVA, Ye.L.; GITINA, R.M.; YAKUBOVICH, A.Ya.; BRAZ, G.I.; PETROVA, L.G.;
BAZOV, V.P.

Synthesis and some properties of aminoperfluorocarboxylic acid esters. Zhur. ob. khim. 34 no.8:2816 Ag '64. (MIRA 17:9)

ROZANTSEV, G.G.; BRAZ, G.I.; YAKUBOVICH, A.Ya.

Phenyl esters of perfluoroaliphatic mono and dicarboxylic acids. Zhur. ob. khim. 34 no.9:2974-2976 S '64.

(MIRA 17:11)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

ZAYTSEVA, Ye.L.; YAKUBOVICH, A.Ya.; BRAZ, G.I.; BAZOV, V.P.

Synthesis in the 1,3,5-triazine series. Part 3: Benzoylhydroxyalkyltriazines. Zhur. ob. khim. 34 no.9:2976-2979 S '64. (MIRA 17:11)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

BRAZ, G.I.; MYASNIKOVA, B.V.; YAKUBOVICH, A.Ya.; BAZOV, V.P.

Syntheses in the 1,3,5-triazine series. Part 4: Carbethoxy-substituted triazines. Zhur. ob. khim. 34 no.9:2980-2987 S '64. (MIRA 17:11)

1. Fiziko-khimicheskiy institut imeni L.Ya. Karpova.

ZAYTSEVA, Ye.L.; YAKUBOVICH, A. Ya.; BRAZ, G.I.; BAZOV, V.P.

Esters of bisiminoadipic and -terephthalic acids. Zhur. ob. khim. 34 no.11:3709-3713 N '64 (MIRA 18:1)

1. Fiziko-khimicheskiy institut imeni L. Ya. Karpova.

L 20089-65 EWP(e)-2/EWT(m)/EPF(c)/EPR/EWP(j)/T Pc-4/Pr-4/Ps-4/Pt-10 RPL/
ACCESSION NR: AP4049926 ASD(m)-3 WW/JW/ S/0020/64/159/003/0630/0631
RM

AUTHOR: Yakubovich, V. S.; Myasnikova, G. V.; Braz, G. I.; Yakubovich, A. Ya.

TITLE: Synthesis of polybenzoxazole

B

SOURCE: AN SSSR. Doklady, v. 159, no. 3, 1964, 630-631

TOPIC TAGS: benzoxazole, polybenzoxazole synthesis, heat resistant polymer, dihydroxybenzidine, isophthalyl dichloride, isophthalic acid, terephthalic acid

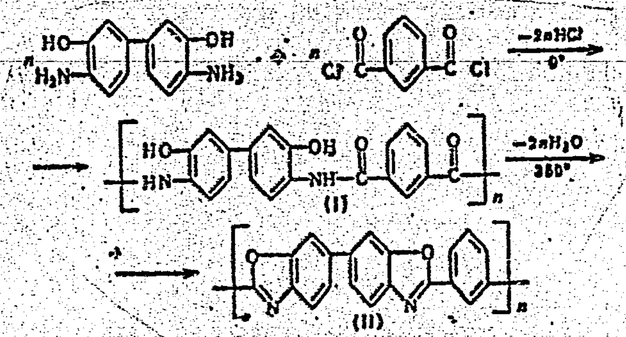
15

ABSTRACT: To obtain polymers with high thermal stability, the authors studied the condensation of 3,3'-dihydroxybenzidine with isophthalyl dichloride. The process is a two-step reaction: 1) formation of a poly(hydroxy amide) at 0C and 2) formation of a polybenzoxazole through intramolecular ring closure at 350C. The authors synthesized poly-2,2'-(m-phenylene)-6,6'-dibenzoxazole:

Card 1/3

L 20089-65

ACCESSION NR: AP4049726



This polybenzoxazole, $(C_{20}H_{10}N_2O_2)_n$, is soluble in concentrated H_2SO_4 and insoluble in dimethyl sulfoxide, N-methylpyrrolidinone, and dimethylacetamide. The interesting fact observed was that solutions of (I) in H_2SO_4 reveal a distinct fluorescence. After heat treatment in vacuum (up to 500C and 0.01 mm Hg), (I) becomes insoluble in H_2SO_4. The above described synthesis was repeated with the use of the terephthalic dichloride resulting in the preparation of poly-(3,3'-

L 20089-65
ACCESSION NR: AP4049926

dihydroxydiphenylterephthalamide). Orig. art. has: 1 figure.

ASSOCIATION: Fiziko khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute)

SUBMITTED: 25Jun64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 001 OTHER: 003 ATD PRESS: 3158

Card 3/3

L 17996-66 EWT(m)/EWP(j)/T/ETC(m)-6 WW/RM

ACC NR: AP6006981 (A) SOURCE CODE: UR/0190/66/008/002/0272/0277

AUTHOR: Braz, G. I.; Kardash, I. Ye.; Yakubovich, V. S.; Myasnikova, G. V.; Ardashnikov, A. Ya.; Oleynik, A. F.; Pravednikov, A. N.; Yakubovich, A. Ya. 34 B

ORG: Physical Chemistry Institute im. L. Ya. Karpov (Fiziko-khimicheskiy institut)

TITLE: Polybenzoxazoles: preparation and thermal degradation 15,44,55

SOURCE: Vysokomolekulyarnyye soyedineniya, v. 8, no. 2, 1966, 272-277

TOPIC TAGS: heat resistant polymer, polyoxamide, polybenzoxazole

ABSTRACT: New high-thermal-stability 15 polybenzoxazoles have been prepared which withstand temperatures up to 520—530C in vacuum. Polyoxamide intermediate products (I, a—e) were prepared by low-temperature (∿ 0C) polycondensation of 3, 3'-dihydroxybenzidine with isophthaloyl, terephthaloyl, 2,5-furandicarbonyl, 3,5-pyridinedicarbonyl, and fumacyl chlorides in dimethylacetamide. The polyoxamides were converted to the polybenzoxazoles (II, a-e) by thermal cyclodehydration. In addition, polycondensation of bis(4-hydroxy-3-aminophenyl) sulfone with isophthloyl chloride produced polyoxamide III which was converted to polybenzoxazole IV.

2

Card 1/3 UDC: 541.64+678.01:54+678.67

L 17996-66

ACC NR: AP6006981

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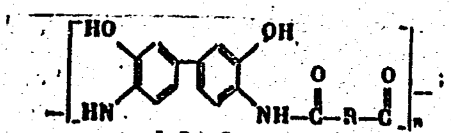
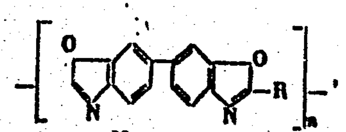
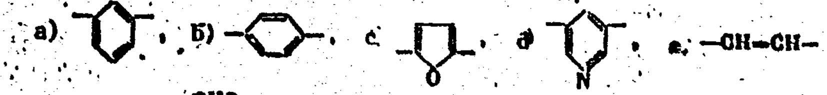


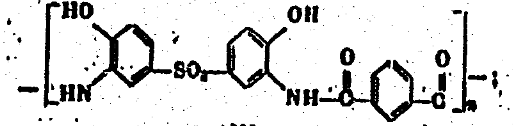
I, a—e



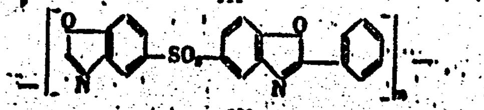
II, a—e

where





III



IV

All the polyoxamides except III were colored materials, and all were soluble in conc. H_2SO_4 and in some amide solvents. Polybenzoxazoles IIa and IIb are soluble in conc. H_2SO_4 and insoluble in amide solvents, even in the presence of LiCl; II c—e are insoluble in conc. H_2SO_4, apparently owing to cross-linking. The poly-

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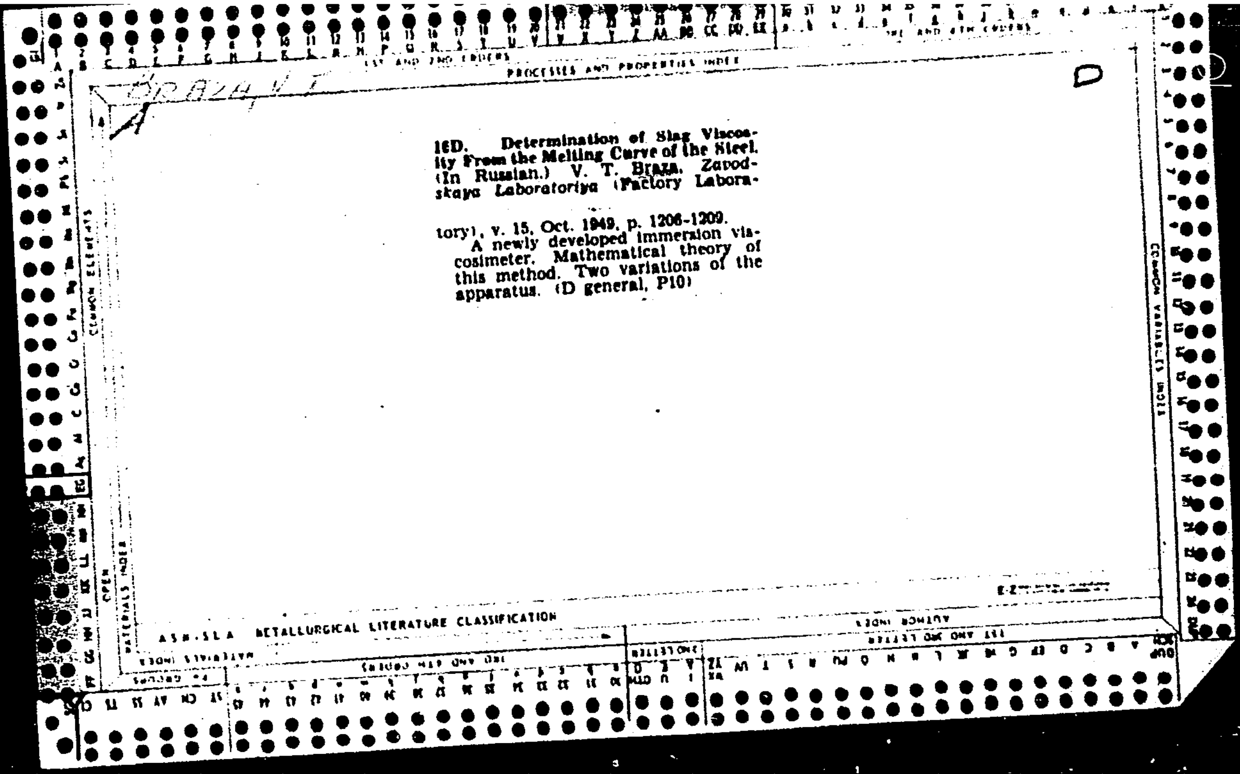
L 17996-66
ACC NR: AP6006981

O

benzoxazoles show bright luminescence. Structures were confirmed by IR spectroscopy and elemental analyzing. Orig. art. has: 3 tables, 3 figures, and 4 formulas. [SM]

SUB CODE: 11/ SUBM DATE: 13Mar65/ ORIG REF: 001/ OTH REF: 009/ ATD PRESS: 4213

Card 3/3



BRAZA, V.T.

A

D

PROCESSES AND PROPERTIES INDEX

16D. Determination of Slag Viscosity From the Melting Curve of the Steel. (In Russian.) V. T. Braza. *Zavodskaya Laboratoriya* (Factory Laboratory), v. 15, Oct. 1949, p. 1206-1209.

A newly developed immersion viscosimeter. Mathematical theory of this method. Two variations of the apparatus. (D general, P10)

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

USSR/Diseases of Farm Animals - Diseases Caused by Bacteria and Fungi R

Abs Jour : Ref Zhur Biol., No 5, 1959, 21395

Author : Brazaitis, J.

Inst : Lithuanian Veterinary Academy

Title : Problems of Epizootology of Swine Erysipelas under the Conditions of Lithuania.

Orig Pub : Tr. Lit. vet. akad., 1957, 3, 149-160

Abstract : The highest percentage of swine infected with erysipelas is observed in Lithuania in September-October. This phenomenon may be explained by the fact that during these months large swarms of stable flies which transmit the pathogenic agent of porcine erysipelas, accumulate in pigpens. Due to vaccination which was performed during the last years, porcine erysipelas has become a rare

Card 1/2

BRAZAITIS, Juozas, dots., zasl. vet. vrach Litovskoy SSR;
SADAUSKAITE, A., red.; LUKOSEVICIUS, St., tekhn. red.

[Infectious swine diseases] Infekcines kiauliu ligos.
Vilnius, Valstybine politines ir mokslines literaturos
leidykla, 1961. 152 p. (MIRA 15:3)
(Swine--Diseases)

BRAZAUSKAS, V. K.

3(5) PHASE I BOOK EXPLOITATION SOV/2455

Lietuvos TSR mokslu akademija. Geologijos ir geografijos institutas

Geografinis metraštis, I (The Geographical Yearbook, I) Vilnius, 1958. 401 p. Errata slip inserted. 1,000 copies printed.

Sponsoring Agency: Lietuvos TSR geografine draugija.

Editorial Board: A. Basalykas, K. Bieliukas, Editor-in-Chief (President), V. Chomskis (Vice President), V. Gudelis (Vice President), K. Kaušyla, Managing Ed. (Secretary), S. Markelyte, and S. Tarvydas.

PURPOSE: This book is intended for geographers and for the general reader interested in the geography of Lithuania.

COVERAGE: The first volume of the Geographical Yearbook presents articles by 22 authors covering aspects of the climatology, geomorphology, geology of the Quaternary, limnology, economic geography, etc. of Lithuania. The publication also includes a section devoted to book reviews and a chronicle of scientific events. Articles appear in Lithuanian with English and Russian resumes. References accompany each article.

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